

# American Aviation

Vol. 4, No. 1

Published Twice a Month

June 1, 1940

\$3.00 a Year

## Fortnightly Review

### 1,000 Transports

THE time has come to lay all of the cards out on the table.

For twenty-one months the Civil Aeronautics Authority was making minute preparations for a big old-fashioned picnic that was some day to be held. Every detail was being planned with excruciating care. A two-hour argument as to whether there would be 241 knives and forks or 243 was just a matter of course. A six-months research study was instituted to determine whether 24,5872 pounds of hot dogs would be needed or whether the party could "get along" on a mere 23,9887 pounds.

After twenty-one months the Authority was about to set the date for the picnic, but a storm came up and the picnic grounds were all washed away.

History these days is not being built on the traditions of the past. By the time researchers finish their studies the original thesis had disappeared. By the time the Civil Aeronautics Authority had finished dotting all the i's and crossing the t's, there was no Civil Aeronautics Authority.

It is a lot more satisfactory to have a picnic on the first good day and have a few hot dogs left over than to spend months preparing for just the split fraction amount of hot dogs and have the picnic canceled for good.

Now that we are to have a Civil Aeronautics Board within the Department of Commerce after June 10, the new Board will not lack for things to do. Not twenty-four hours had elapsed after the Senate decision permitting the reorganization of the CAA than the national defense program became uppermost in the news. If the Authority has

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## 50,000 Plane Program Needs Three Years at Top Speed

### U.S. MARKETS LOST IN 8 COUNTRIES

Dutch Outlet for Commercial Transports Is Serious Loss; Other Conquered Nations Used U. S. Planes

World War II is diminishing the commercial and military aircraft export markets of the United States by a considerable degree. One by one the markets have been taken over by Germany.

The first market lost was Czechoslovakia, although this was never a primary outlet for U. S. airplanes and engines. Poland, however, was a purchaser of both commercial and military airplanes. The Polish airline, L. O. T., had used a number of Lockheed transports.

Finland always has been a minor market, but nevertheless purchased some U. S. equipment. It is probable that Finnish purchases in the future will be quite small, especially in view of the country's position within the sphere of Russian and German influence.

Norway was becoming a major market just before the Germans marched in. The country had ordered military planes from Douglas and Northrop, and

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### Good Fighter



Sen. Pat McCarran  
Nevada Democrat, whose moral victory for an independent Civil Aeronautics Authority overshadowed the technical defeat.

### Defense Plans Are Pushed But Details Are Not Yet Known

WITH a swiftness and generality long expected of the President, Mr. Roosevelt put military and naval aviation far into the front of domestic news May 16 with a plea for not only a fleet of 50,000 military aircraft but an annual production capacity for these planes of 50,000.

Few had anticipated that the President would leap into such high figures when the military services have been talking only a few weeks back of adding a few thousand planes to the present authorized strengths.

The President asked an immediate appropriation of \$896,000,000, all above regular appropriations, for the following uses: \$546,000,000 for the Army, \$250,000,000 for the Navy and Marine Corps, \$100,000,000 to the President to provide for emergencies affecting the national security and defense, \$186,000,000 for contract authorizations for the Army, Navy and Marine Corps, and \$100,000,000 for the President for authorizations.

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## CAA Moves Into Commerce June 11; Hinckley Slated to be Asst. Secretary

By a vote of 46 to 34 the Senate on May 14 refused to reject Reorganization Plan IV and as a consequence the Civil Aeronautics Authority will be transferred to the Commerce Dept. on June 11, the offices of the Air Safety Board will be abolished, and the U. S. Weather Bureau will be shifted from the Department of Agriculture to the Department of Commerce.

Following a smashing defeat in the House, the Administration poured on the pressure in the Senate, making the issue strictly political. With the White House using threats of political retaliation, withdrawal of Public Works funds, and promises of government-built aircraft factories, the Senate fell

into line and made it possible for the President to "save face" against a rising tide of public and press opposition to killing CAA independence. Under the leadership of Sen. Pat McCarran of Nevada, the foes of reorganization could muster only 34 votes, whereas two weeks earlier at least 65 Senators had committed themselves to support independence.

Reorganization order III, giving the CAA administrator greatly increased powers, becomes effective June 2.

By the two reorganization plans, the Civil Aeronautics Authority becomes the Civil Aeronautics Board, a supposedly independent unit within the Department of Commerce. The Board

will retain the Bureau of Economic Regulation whose functions have to do with regulation, rate-making and other economic factors in air transportation. It also will have as a new activity the accident investigation functions of the Air Safety Board, with all of the Safety Board's personnel being transferred to the Civil Aeronautics Board.

The administrator becomes the administrator of Civil Aeronautics, reporting directly to the secretary of Commerce. He will be independent of the Civil Aeronautics Board and will have most of the spending and enforcement powers which formerly were at least nominally supervised by the Authority. It is expected that Robert H. Hinckley, chairman of the Authority, will become assistant secretary of Commerce in charge of aeronautics. The Civilian Pilot Training Program will be in

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Third Anniversary Issue •

## F.D.R. Years Late, Critics Say; Industry Heads Pledge All Support

While the aircraft manufacturing industry assured the Administration of their fullest cooperation in the national defense program, two well known personalities told the President he was years late in finally desiring an adequate fleet of military and naval aircraft.

General Hugh S. Johnson in his syndicated newspaper column recalled that the President turned down a chance to use some of the early New Deal funds for national defense. Gen. Johnson said he had been trying to get the President's ear for seven years without success. Calling the 50,000-plane speech tardy, he said: "He is late. He may be too late. Nobody can tell him anything, nothing could move him from his stubborn, ill-informed and inept inaction but a world-shaking catastrophe."

Capt. Eddie V. Rickenbacker, World War ace and president of Eastern Air Lines, said the program "came five years too late." He stressed the need of efficient pilot training and long range bombers capable of non-stop flights of 2,000 to 3,000 miles, and master air bases.

Col. John H. Jouett, president of the Aeronautical Chamber of Commerce, said: "Fortunately, the industry is in the best possible position to undertake this expansion in an orderly manner. Of our 43 airplane plants, 23 are working on military orders. . . . We have had nearly a

year's experience in expanding production . . . The bottlenecks that threatened increased production several months ago no longer exist."

Robert E. Gross, president of Lockheed Aircraft Corp., Burbank, Calif., was quick to respond to the President's message. "If President Roosevelt wants to open the throttle for a 50,000 plane take-off, the American airplane industry is ready to go—and go right now . . . The American companies have grown and developed in spite of difficult world conditions because they have built quality and performance and because the individual companies have developed the men and brains to go ahead."

From Donald W. Douglas, president of Douglas Aircraft Company, came the following: "We can do it. No task is too great and no accomplishment impossible for a free people united in loyalty and love of its country. Every facility of our plants and every resource of our own organization are at the service and call of our national defenses."

**Seymour Wins McKee Trophy**  
Maj. M. A. Seymour, president of the Canadian Flying Clubs Association, has been awarded the McKee Trophy, Canada's highest aviation award, for 1939. It was announced in Montreal, Que., recently. Trans-Canada Air Lines was awarded the trophy for 1938 "for rendering the greatest service to Canadian aviation."

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## 50,000 Planes

(Continued from page 1)

"I should like to see this nation geared up to the ability to turn out at least 50,000 planes a year," the President said. "Furthermore, I believe that this nation should plan at this time a program that would provide us with 50,000 military and naval planes."

Industry leaders lost no time to assure the President of the cooperation of aircraft and engine manufacturers, although it is admitted in all industry circles that nothing like 50,000 planes could be built in less than two-and-a-half to three years—cramping the industry during that period to achieve what Germany required five years of struggling to accomplish.

No details of the plans are available for the simple reason that the plans are not yet worked up. Hastily prepared, the President's message even caught the air services unawares, for the program has been outlined at the top and it was not for some days that Air Corps and other officials began to get some inkling of what the President has in mind. Secretary of the Treasury Henry Morgenthau and Assistant Secretary of War Louis Johnson are among the key men in the picture.

Capital informants freely predict that a War Industries Board will be created in the near future to handle the defense program. A vast new enterprise in government was beginning to get into shape as this issue went to press.

Government-built factories are part of the expansion scheme, but the industry has been told that the government will not operate these aircraft plants except as a very last resort. No details of this program are yet known, but the general idea is that the government will construct plants in the mid-west and turn them over for a fee to manufacturers to operate as branches. When the need for vast quantities of airplanes is over, the factories would be closed down and kept in reserve. The industry has been told that the government will not compete with private business, and, as a matter of fact, the government has neither the personnel nor leadership available to operate such plants.

The President's message had a lightning affect on the nation, but newspaper columnists and others pointed out that the President is five years late in preparing for national defense. Military aircraft production will be up to the rate of 14,000 planes a year by the end of this year, but an annual production of 50,000 a year is not in the cards for at least three years.

Major questions so far unanswered is the problem of pilots and other personnel required to maintain and fly the airplanes. Another is the question of profit limitations and many other restrictions which now hamper rapid expansion. One of the biggest problems is what types of planes are to be built. It has been discovered subsequent to the President's message that none of these problems has been worked out. The President merely set the stage for a vast expansion program, typical of many such hastily prepared plans in the present Administration, in which the impossible is expected at once.

One of the strangest episodes—and one which brought plenty of grumbling from aircraft manufacturers who are too busy to be wasting time on frivolities, was the "important" meeting in Washington called for May 20 by Col. Johnson. Some forty manufacturers

were asked to come in for this session, which was to work out details of the program. The actual meeting lasted only a few minutes with nothing new being learned by the industry. Some of the executives had traveled across the country, only to find that they were a part of a dramatic publicity effort to show the nation through newsreels that the machinery was moving.

While all agreed that airplane building, pilot training and airport construction was of momentous importance, all also agreed that the President had forgotten to tell the men down the line what he wanted. More than one high Air Corps official was "put on the spot" in embarrassing positions because he didn't know the answers.

But a vast War Industries machinery was being planned in Washington with plenty of money available. Congress was in a mood to rush through any kind of appropriation in the face of the strong German march into France.

In the meantime the Air Corps let it be known that it did not want 50,000 airplanes—it wanted between 6,000 and 7,000 first-line aircraft plus others for reserves. The simple fact is, it was pointed out, that there aren't enough airports even to park 50,000 airplanes, let alone personnel, equipment, etc., to handle them. Plus the fact that they can't be built in a few months. And what kind are to be built?

By June 15 more details of the plans will be known and there seemed to be no question but that all factories will be working three shifts later this year. The problem of labor will be one of the most vital factors.

The War Department appropriations bill was being considered in Congress. Details of this bill will be given later since all items are subject to change until passage.

## Branch Sees 1 Plane to Every 100 Autos

There may be one airplane owner for every 100 automobile owners in the near future. Harlie Branch, CAA member, told the Savannah, Ga., chamber of commerce on May 14 at a meeting held in connection with the dedication of the Savannah airport.

"I am not one of those who can imagine aircraft swarming through the skies in numbers comparable to the automobiles on the highways," Branch said. "As one of those charged with the duty of framing traffic and safety regulations for civil flying I quake at the problems such a development would bring, and I very much doubt if we will ever have to face them."

"But it is certainly not unreasonable to assume that for every 100 automobile owners there will be one person in this country who owns an airplane. If this ratio is realized it will mean 250,000 civilian airplanes in the U. S. Since it is reasonable to assume that at such a volume the price of an ordinary private plane would be approximately that of an ordinary automobile and the production of an airplane would furnish employment to the same number of people as the production of an automobile, that would mean a very real and substantial industry."

"Those aircraft would have a wholesale investment of about \$240,000,000 and the investment in replacement parts, accessories and service equipment would be about \$140,000,000. It would mean 50,000 people permanently employed in airplane factories and another 600,000 directly or indirectly employed in operating and servicing these planes."

## Omaha Breaks Ground

Ground has been broken for construction of a new administration building at Omaha Municipal Airport.



## Col. Knox Heads New Pilot Training Set Up Supervised by Army

Col. Frank Knox, publisher of the *Chicago Daily News* and former Republican vice-presidential candidate, announced from Chicago on May 17 that he was authorized by the President to state that he will head a program of organizing nine camps in the nine military corps areas for training 10,000 additional civilians as pilots, under direct supervision of the Army, but through the CAA budget. The camps will open about July 1.

Among those whom Col. Knox said approved this program were Under-Secretary of Commerce Edward J. Noble; Gen. H. H. Arnold, chief of the Army Air Corps, and Chief of Staff Gen. Marshall.

## American Aviation Directory Out June 1

The publishers of AMERICAN AVIATION announce the publication on June 1 of the first edition of AMERICAN AVIATION DIRECTORY, a 250-page wire-bound directory of officials and personnel in aviation industries, organizations, and in government agencies concerned with aviation. Names, titles and addresses of over 6,000 persons are listed.

The volume consists of a number of sections for air transportation, aircraft manufacturing, accessories, machinery, organizations, and government. An alphabetical index is included.

Although initially announced for April 15, the publication date was delayed until June 1 because of unforeseen difficulties in compiling a directory of this magnitude. Only information obtained direct from company sources is used. The directory sells for \$3.00 per single copy, or \$5 for the first edition and the revised fall edition to be issued about September 15. Substantial discounts for bulk orders are available. Orders should be sent to American Aviation Associates, Inc., Earle Building, Washington, D. C.

## SOARING MEET SET

11th Annual Contest to Be Held at Elmira, June 29 to July 14

The 11th Annual National Soaring Contest will be held at Elmira, N. Y., from June 29 to July 14, with emphasis being placed on glider acrobatics and speed flights, according to announcement by Maurice L. Waters, general manager of the Elmira Area Soaring Corp.

Jay Buxton, west coast NAA official and pioneer glider designer, is to be operations director. To date, more pilots have signified their intention of entering as contestants than the total number attending last year's meet. Operations personnel will number approximately 150. Chester Decker, Glen Rock, N. J., pilot, was winner of last year's meet with 3,020 points.

**Knudsen Heads Omaha Commission**  
The newly formed airport commission at Omaha, Neb., is headed by City Commissioner Harry Knudsen, chairman, and Gould Dietz, vice chairman.

## Expensive Ride

William T. Swain, operator at Salinas, Cal., under the CAA civilian pilot training program, has posted the following sign in his operations room. "Stunt ride, \$5.00; CAA fine, \$500; total cost, \$505."

## Calendar

- June 1-2—10th Annual National Air Carnival, Birmingham, Ala.
- June 9—7th Annual Air Classic Sponsored by Junior Chamber of Commerce, Port Columbus, Columbus, O.
- June 9—Philadelphia Aviation Club's Annual Open House & Airplane Review, Wings Field, Ambler, Pa.
- June 9-14—SAE's Summer Meeting, The Greenbrier, White Sulphur Springs, W. Va.
- June 9-23—3d Annual Southwestern Soaring Contest, Wichita Falls, Tex.
- June 15—Opening of Philadelphia Municipal Airport.
- June 17-21—American Society of Mechanical Engineers, Semi-Annual Meeting, Milwaukee, Wis.
- June 20-22—6th Annual National Intercollegiate Air Tournament, Lock Haven, Pa.
- June 21—IAE.S. Session on "Air Transport and High Altitude Problems" at Summer Meeting of A.A.S. Presentation of Muskok Memorial Trophy, Seattle, Wash.
- June 23—Free Air Show Sponsored by 40 et 8 Society, Lansing, Mich.
- June 24-26—2d Annual Summer Meeting of I.A.E.S., Pasadena, Cal.
- June 25—National Intercollegiate Air Meet, Long Island Aviation Country Club, Hicksville, N. Y.
- June 25-26—National Summer Plane Cruise to Michigan.
- June 29-30—Aviation Days, Municipal Airport, Syracuse, N. Y.
- June 29-July 14—11th Annual National Gliding & Soaring Contest, Elmira, N. Y.
- June 30—Annual Aircraft Show, Long Island Aviation Country Club, Hicksville, N. Y.
- July 4-6—Air Show, Municipal Airport, Denver, Colo.
- July 6-7—Ninety Nines' Annual Convention, Brown Palace Hotel, Denver, Colo.
- July 7-3d Annual Air Races & Air Classic, Kalamazoo, Mich.
- July 7-9—1st National Air Congress & NAA Convention, Brown Palace Hotel, Denver, Colo.
- July 13—National Airplane Trading Day, Lovell Field, Chattanooga, Tenn.
- July 14—All-Dixie Air Show, Lovell Field, Chattanooga, Tenn.
- July 21—5th Annual Air Show, Ft. Wayne, Ind.
- Aug. 1—Opening Ceremonies for Love Field's New Administration Building, Dallas, Tex.
- Aug. 4—Dedication of Coast Guard Air Station, Elizabeth City, N. C.
- Aug. 11-17—4th Annual Wisconsin NAA Air Tour.
- Aug. 18-19—Air Show Sponsored by Sheldon Chapter of NAA, Roscoe Turner Field, Sheldon, Ia.
- Sept. 3-6—American Society of Mechanical Engineers, Fall Meeting, Spokane, Wash.
- Oct.—Air Line Pilots Association, Annual Convention, Chicago, Ill.
- Oct. 7—Air Line Mechanics Association, Annual Convention, Chicago, Ill.
- Oct. 7-11—National Safety Congress & Exposition, Stevens Hotel, Chicago, Ill.
- Oct. 17-19—NASAO's Annual Convention, Louisville, Ky.

## Howard's New Chief



Evan J. Parker  
New president of Howard Aircraft Corp., Chicago, retains the office of treasurer which he has held since January.

## Arkansas Air Tour Held

The Light Plane Cavalcade conducted in conjunction with the annual Arkansas Air Tour was held May 17-18, some 30 craft leaving Little Rock and visiting Conway, Russellville, Hot Springs, Monticello, and Brinkley, Ark., before disbanding at Memphis, Tenn. Tour commander was Ernest Bailey, mayor of Cabot, Ark.

## Alabama Tour May 30-31

A state-wide Alabama Air Tour was held on May 30-31, it was announced by Asa Rountree Jr., State director of airfield development.

## Fire Damages Aeronca Plant

Fire in the paint-spraying building caused \$1,500 damage at the Aeronautical Corporation of America plant, Lunken Airport, Cincinnati, O., recently. Test pilot, Donald Griggs, 31, received slight burns but did not require medical attention. Principal loss was the destruction of one airplane fuselage, there being minor damage to the building and paint equipment. Aeronautical Corp. has been planning to move its plant to Middletown, O.

## For Passengers

AMERICAN AVIATION is now available for reading on the transports of Pennsylvania-Central Airlines and Chicago and Southern Air Lines.

## Cabinet Office for Air?

It has been learned on highest authority that the President has discussed with advisers the feasibility of creating a new cabinet office for aviation in which the naval and military air forces would be combined and all commercial aviation would be closely allied in an emergency. Creation of a separate air force rather than establishment of a cabinet department has also been discussed. How far the discussions have gone is not known at this writing, nor is it known what chances there are for fruition of such ideas. But it is learned definitely that discussions have been held since May 10. A War Industries Board is expected to be created in the near future to take charge of the national defense program.

## Vast Airport Building Program Near

Prospects for a large-scale airport building program with federal money appear bright. President Roosevelt had as guests on his yacht Sunday, May 19, Chairman Robert H. Hinkley of the CAA, Secretary of Commerce Harry Hopkins, and Federal Works Administrator F. C. Harrington. A plan to remove restrictions which now hamper use of WPA and other federal money for all projects pertaining to national defense is believed to be in the wind, with millions to be spent on airports. Meantime Sen. Bennett Clark has held several subcommittee meetings on Sen. McCarran's bill authorizing federal funds for airport construction. Whether this bill or a public works program will be the choice, insiders believe a vast airport building program as part of the national defense plans will be launched very shortly.

## SNOW ASKS MORE LANDING FIELDS

Massachusetts Director Tells New England Conference Private Flyers Have Been Neglected

Private flying has not developed nearly as fast as scheduled air transportation because "we have all been pushing a reasonably adequate airport program, but have seriously neglected landing fields for private flyers," Crocker Snow, director of the Massachusetts Aeronautics Commission, told the New England Aviation Conference at Hartford, Conn., May 17.

"Landing fields compare to airports as our many secondary roads compare to our through highways," he said, "and are just as important to our air transportation system. Unlike scheduled air transportation, where airports almost of necessity spring up where the demand for the service requires them, landing fields will have to lead the way for any real and lasting increase in private flying."

Harvey L. Williams, consultant to the Connecticut Aeronautical Development Commission, who organized the conference under sponsorship of the six New England governors, welcomed the delegates to the two-day conference, the first of its kind held in that area. Gov. William H. Vanderbil of Rhode Island extended greetings to the gathering.

## PHILLY FIELD TO OPEN

3 Airlines Plan Move from Camden About June 15

Eastern Air Lines, TWA and United have filed notices with the CAA stating that about June 15 they will transfer operations from Central Airport, Camden, to Philadelphia Municipal Airport.

Central does not have paved runways, and use of DC-3 equipment on the field is subject to certain maximum weight limitations, EAL and TWA said, adding that 90% of Philadelphia passengers reside in the west, south and northwest residential districts which will be better served from the new field. Minimum ceiling and visibility requirements are lower at the new field, and there will be more working space for ground personnel, they stated.

United explained that operations from the new field will enable the company to give improved service to the metropolitan area of Philadelphia and Camden.

## Airlines Start Sightseeing Flights for World's Fair

Sightseeing flights over New York City and the World's Fair were started May 11, operated by New York Airport Terminal Corp., a subsidiary controlled by United Air Lines, TWA, American Airlines and Eastern Air Lines. Only United, American and TWA, however, are participating in conduct of the service.

The 30-minute flights are operated from the Marine Terminal Base, LaGuardia Field, with Douglas DC-3 equipment. Fare is \$4.00. Special Carey Cadillac limousines transport sightseers from Corona Gate of the Fair, immediately adjoining the Aviation Bldg., to Marine Terminal, and free re-entry into the Fair after the trip is permitted.

## Ellenstien Warns Newark Control Tower Will Close

Notification that the control tower at Newark Airport would be closed June 1 has been given to the CAA, the FOC and the four major airlines using the field, Mayor C. Ellenstien of Newark announced May 14. Mayor Ellenstien said he would not permit the carriers to operate the control tower unless they made "satisfactory financial arrangements with the city." Eastern Air Lines and United Air Lines hold leases to the field until next October, and American Airlines and TWA operate on a month-to-month basis.

## CAA Shift

(Continued from page 1)

charge of the administrator who will report to the assistant secretary of Commerce who in turn is responsible to the secretary.

The two members of the Air Safety Board, Thomas O. Hardin, chairman, and C. B. Allen, vice chairman, will leave their posts June 11.

Thus the independent agency which was created by the Civil Aeronautics Act of 1938 after five years of study and consideration by Congress, comes to an end less than two years after its institution. Prior to its establishment in 1938, the Post Office Dept., the Interstate Commerce Commission and the Department of Commerce, all had charge of civil aviation in varying degrees. After June 11 the Department of Commerce will have all of civil aviation, plus the U. S. Weather Bureau.

The transition into Commerce is expected to take place without fanfare. Any personnel changes are expected to be restricted to the upper brackets. Hinckley's nomination as assistant secretary of Commerce will leave a vacancy on the Board, but none of the other four members is expected to resign. Whether Clinton M. Hester, administrator, holds his post remains to be seen. Both Hardin and Allen have not yet announced their plans.

In the Commerce Dept. Hinckley joins a host of friends, including the secretary, Harry H. Hopkins, and the under-secretary, Edward Noble. Also in the department's inner circles are Charles Stuart Guthrie, a New Dealer of the Tommy Corcoran clique, who for a time was general counsel of the Civil Aeronautics Authority, and David K. Niles, who went with Hopkins to Commerce from the Works Progress Administration. Prior to his appointment to CAA Hinckley was WPA chief for 13 western states. Noble was the first chairman of the Civil Aeronautics Authority. Thus the Commerce Dept. is ruled by a combination of former WPA and former CAA officials.

Col. J. Monroe Johnson, assistant secretary of Commerce for many years and storm center in the old Bureau of Air Commerce, has been nominated to the Interstate Commerce Commission to make way for Hinckley. Also expected to move to Commerce is Dean Brimhall, of Utah, formerly with WPA and now a special assistant to Hinckley.

In Washington there was talk that Thomas Hardin might be asked by the White House either to be administrator or to become the fifth member of the Civil Aeronautics Board.

The fight in the Senate leading up to the vote was spirited and few punches were pulled, although there was quick disposition in Washington to forget the battle once the vote was taken. Both Sen. McCarran and Tom Hardin, hard fighters for independence, showed they were good losers by issuing statements wishing the new set-up complete success and assuring the CAB of their continued cooperation.

Much dirty linen within the CAA and the Air Safety Board was washed in public prior to the vote. At the hearings held by the Senate reorganization committee both Col. W. Sumpter Smith, former member of the Air Safety Board, and Darrell Lane, one-time general counsel for the board who was fired last fall, aired their grievances. Lane originally had been promised a position on the Civil Aeronautics Authority, through pull by veteran organizations, but since he was from Utah and Hinckley had been spotted on the Authority by Harry Hopkins, Lane was given a job in the legal department. Subsequently he was shunted into the Air Safety Board. He had had no aviation experience whatever and his being shunted into

## How the Senate Voted

### For Independence—34

The following Democrats up for re-election this year refused to permit political pressure to influence their vote:

Ashurst (Ariz.)	Burke (Nebr.)	Byrd (Va.)
Donahey (Ohio)	Gerry (R. I.)	Pittman (Nev.)
Truman (Mo.)	Van Nuys (Ind.)	

The following Democrats whose terms expire in 1943 and 1945 voted in support of the McCarran resolution:

Brown (Mich.)	Clark (Mo.)	Downey (Cal.)
McCarran (Nev.)		

The following Republicans and Farmers-Laborites also voted for independence:

Austin (Vt.)	Barbour (N. J.)	Capper (Kan.)
Davis (Pa.)	Frazier (N. D.)	Gibson (Vt.)
Gurney (S. D.)	Hale (Me.)	Holman (Ore.)
Johnson (Cal.)	Lodge (Mass.)	Lundeen F-L (Minn.)
McNary (Ore.)	Reed (Kan.)	Shipstead F-L (Minn.)
Taft (Ohio)	Thomas (Idaho)	Tobey (N. H.)
Townsend (Del.)	Vandenberg (Mich.)	White (Me.)
Wiley (Wis.)		

### For Reorganization—46

The following Democrats and one Progressive up for re-election this year voted with the Administration against independence:

Andrews (Fla.)	Bilbo (Miss.)	Connally (Tex.)
Guffey (Pa.)	LaFollette Prog. (Wis.)	McKellar (Tenn.)
Mead (N. Y.)	Minton (Ind.)	Walsh (Mass.)

The following Democrats and one Independent with terms expiring in 1943 or 1945 voted for reorganization:

Adams (Colo.)	Bailey (N. C.)	Barkley (Ky.)
Bone (Wash.)	Bulow (S. D.)	Byrnes (S. C.)
Caraway (Ark.)	Chandler (Ky.)	Ellender (La.)
Gillette (Ia.)	Glass (Va.)	Harrison (Miss.)
Hatch (N. M.)	Hayden (Ariz.)	Herring (Ia.)
Hill (Ala.)	Hughes (Del.)	Johnson (Colo.)
Lee (Okla.)	Lucas (Ill.)	Miller (Ark.)
Murray (Mont.)	Norris, Indep. (Neb.)	Overton (La.)
Pepper (Fla.)	Radcliffe (Md.)	Reynolds (N. C.)
Russell (Ga.)	Schwartz (Wyo.)	Sheppard (Texas)
Slattery (Ill.)	Smathers (N. J.)	Stewart (Tenn.)
Thomas (Okla.)	Tydings (Md.)	Wagner (N. Y.)

### Not Voting—16

The following Democrats up for re-election this year did not vote:

Chavez (N. M.)	Holt (W. Va.)	King (Utah)
Maloney (Conn.)	O'Mahoney (Wyo.)	Schwellenbach (Wash.)
Wheeler (Mont.)		

The following other Senators did not vote:

Bankhead (D-Ala.)	Bridges (R.-N. H.)	Clark (D.-Idaho)
Danaher (R.-Conn.)	George (D.-Ga.)	Green (R.-R. I.)
Neely (D.-W. Va.)	Nye (R.-N. D.)	Smith (D.-S. C.)

(Some of these were out of the city on necessary business or were absent on account of illness.)

### Pairs

The following Senators (listed above under "not voting,") paired their votes:

<i>For Independence</i>	<i>For Reorganization</i>
Clark (D.-Idaho)	Bankhead (D.-Ala.)
Danaher (R.-Conn.)	Maloney (D.-Conn.)
Chavez (D.-N. M.)	Green (D.-R. I.)
Holt (D.-W. Va.)	George (D.-Ga.)
King (D.-Utah)	Neely (D.-W. Va.)
Thomas (D.-Utah)	Smith (D.-S. C.)
Schwellenbach (D.-Wash.)	Wheeler (D.-Mont.)

the board contributed considerably to its difficulties. He now is with the Federal Securities agency. On being dismissed from the Air Safety Board he vowed vengeance, all of which he helped obtain by working to aid reorganization and testifying at the hearings.

The Senate debate was marked by speeches for independence by Sen. McCarran, by Sen. Bennett Champ Clark of Missouri, by Sen. Warren Austin of Vermont, and by others who were solidly against the President's proposed reorganization.

On the Administration side were Sen. James Byrnes of South Carolina, Sen. Alben Barkley of Kentucky, Sen. Francis Maloney of Connecticut and Sen. Josiah Bailey of North Carolina.

For the most unique reason for voting for Reorganization Plan IV, credit went to Sen. Bailey. He said he was voting for IV because it would counteract the evils of Plan III which gives

the administrator much greater powers. He assailed Hester to such an extent that Sen. Connally of Texas at one point arose to ask Sen. Bailey which side he was really on. Sen. Bailey said Hester was not qualified to have so much power but that Plan IV would effectively limit his power.

As the Administration contacted Senators, however, it became evident that the fight for independence was lost. The issue was not voted on its merits, but as a personal major political issue. One by one the Senators who had promised to support Sen. McCarran gave their excuses and made no secret of the fact that the White House pressure in terms of patronage, public works, etc., was too great.

Most vigorous fight for independence was made by the Air Line Pilots Association, of which David L. Behncke is president. Col. Edgar S. Gorrell, president of the Air Transport Association, which endorsed independence, also was on the job. It is generally

### P. O. Chides Industry

The Post Office Dept. sent to the air transport industry recently a form letter pointing out that the public often receives letters from airlines or other aviation interests dispatched by regular mail—two- or three-cent postage. It quoted a letter from an airline passenger who had received a note in regular mail from the airline thanking him for his patronage. "We do not suggest that all airlines, all the aviation industries, all government aviation agencies, and all aviation publications, utilize air mail exclusively," the P. O. Dept. said, "but we are sending this communication to a number of persons in the aviation field for any attention which they may desire to give to the acceptance of what appears to be a challenge from the public to 'practice what we preach'."

agreed that if the vote in the Senate had been taken on merit, and on the beliefs and feelings of Senators, the reorganization would have been overwhelmingly rejected.

Net result of the battle was to bring into the open a great volume of interpretation and statements purporting to assure the CAB of independence of action. This mass of data will be used effectively by the Board in the event of attempts of political encroachment. Because of this protective material, several members of the Authority who were personally outraged at the attack on independence, decided not to resign and believe the CAB may be able to function suitably.

Another net result is expected to be a speeding up of economic regulation once the transfer is made. The CAB will be relieved of administrative work which has harassed it in the past.

The press was virtually unanimous in supporting Sen. McCarran. Chambers of commerce sent hundreds of telegrams against reorganization, as did many other organizations. The White House won only a technical victory and because of this it is expected that the Administration will bend every effort to secure harmony. White House attaches admitted that no such furor was expected when the reorganization plan was proposed, but that once it had been pushed into the open the White House had to force it through or lose face.

### Legion Air Group Urges Fed'l Training of Mechanics

Recommendation that the federal government through the CAA or another agency establish an extensive program for the training of airplane mechanics, believed a necessary step in air force expansion, was offered by the National Aeronautics Commission of the American Legion meeting in Indianapolis, Ind., recently. Present were John Dwight Sullivan, New York, chairman; Ivan A. Bickelhaupt, Alaska; Harry W. Berdie, Mexico; Carlyle Gotske, Wisconsin; Sumpter Smith, Alabama, and George E. Broome, Texas.

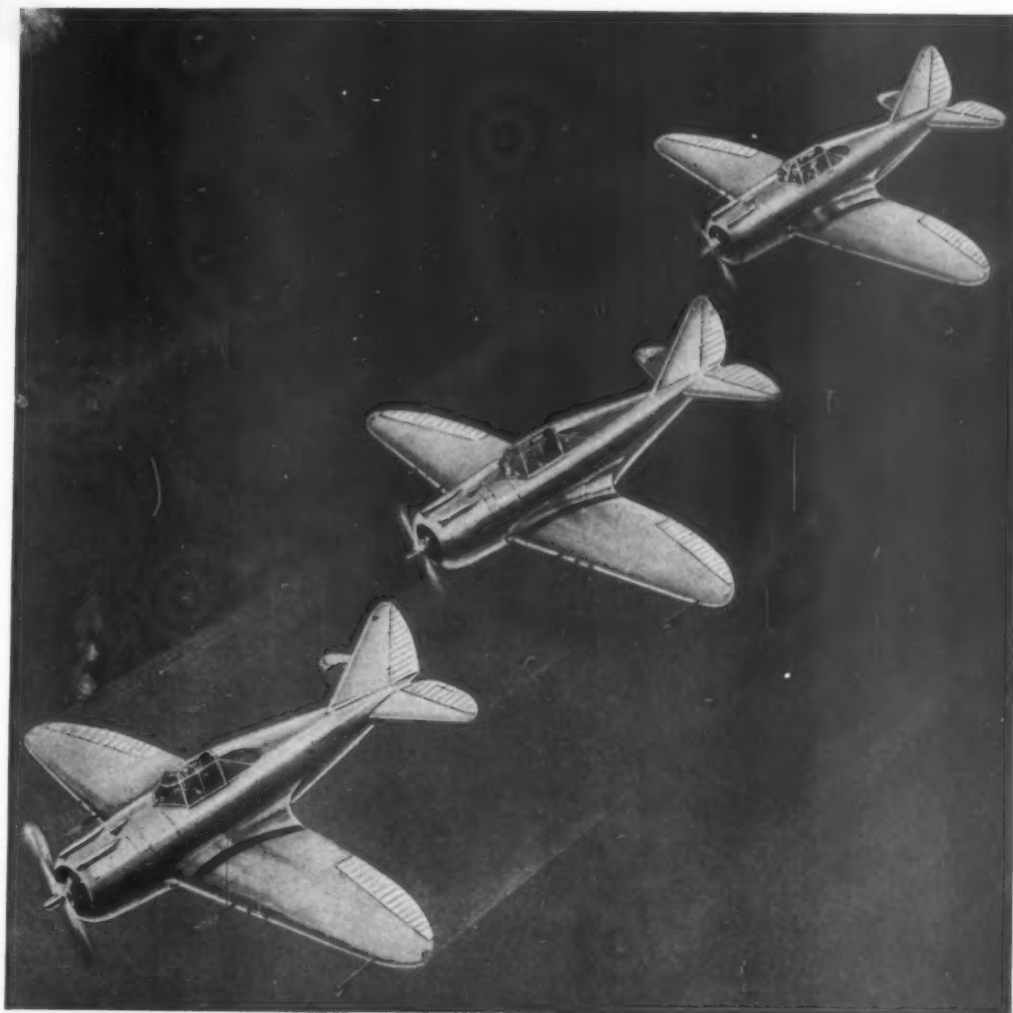
### Capt. Webster Leaves Navy Factory, Replacing Whiting

Capt. Walter W. Webster will be detached from duty as manager of the Naval Aircraft Factory at Philadelphia in June to replace Capt. Kenneth Whiting as general inspector of naval aircraft in the eastern division at New York. Capt. Whiting will retire on June 30.

### Aircraft Minister for Britain

Lord Beaverbrook, 61-year-old newspaper publisher, has been named to Britain's newly created post of minister for aircraft production by Prime Minister Winston Churchill. Sir John Reith, former minister of information, was appointed minister of transport by the new prime minister.





# REPUBLIC AVIATION

**19 PLANES IN 22 DAYS!** . . . Last month, 19 first-line combat planes—checked to the last detail of equipment and flight-tested with full armament—moved from the Republic Aviation plant to purchasers. Republic's emphasis on Man Power—men selected for character, ability and skill, in an efficient and harmonious organization—keeps production moving on schedule, results in on-time deliveries . . .

Republic is ready—for today's job and tomorrow's!

**REPUBLIC AVIATION CORPORATION**

Former name — Seversky Aircraft Corp. • FARMINGDALE, LONG ISLAND, N.Y.

## ERCOUPE READY FOR PRODUCTION

Powered by a 65 hp. Continental, New All-Metal Ship Has Many Safety Features

Designed and manufactured by Engineering and Research Corp. of Riverdale, Md., the new Ercoupe, powered by the Continental A-65, has been granted TC No. 718 and soon will go into production following three years of development.

The all-metal ship, advertised as a personal transport or trainer, seats two persons side-by-side, has a tricycle landing gear with a nose wheel structure of tubular steel and an oleo shock unit. Rear gear is of aluminum alloy with steel oleo cylinders. Shock absorbers are said to allow for one foot of travel on all wheels and are capable of absorbing the shock of a landing with 15 feet per second vertical velocity. Brakes are hydraulic, internally expanding.

Cabin permits closure by two sliding curved panels meeting at the top. Center section of the craft is built integral with the fuselage and supporting wings and landing gear. Wings and tail surfaces are formed fully cantilever and contain all control horns. Flush riveting is used throughout. Controls are operated by push rods or straight cables.

Specifications of the Ercoupe follow: Wing area, 142.6 sq. ft.; chord, 5 ft.; span, 30 ft.; length, 20 ft. 9 in.; height, 5 ft. 11 in.; elevator area, 9.4 sq. ft.; stabilizer area, 10.2 sq. ft.; rudder area (2), 6 sq. ft.; fin area (2), 3.3 sq. ft.; alleron area (2), 16.8 sq. ft.

Full load weights and performance: Power loading 18.1 lbs./hp.; wing loading, 8.2 lbs./sq. ft.; empty weight, 715 lbs.; useful load, 460 lbs.; pay load (full gas), 198 lbs.; gross weight 1,175 lbs.; baggage allowance, 40 lbs.; fuel capacity, 14 gals.; oil capacity, 4 qts.; maximum speed, 117 mph.; cruising speed, 105 mph.; cruising range, 350 mi.; landing run, 200 ft.; service ceiling 14,000 ft.; rate of climb, first minute, 800 ft.; fuel consumption, cruising, 4 gals./hr.; fuel mileage, 26 mi./gal.; oil consumption, 3/4 pt./hr.

Standard equipment includes hydraulic brakes, engine instruments, compass, altimeter, map case, steerable nose wheel and two-control interconnections. Price of the Ercoupe is \$2,640, FAF, Riverdale.

Officers of the corporation are Henry A. Berliner, president; Fred E. Welck, chief engineer, and Harry Agterter, sales and advertising manager.

### Civilian Reserve at Hastings

First unit of the Civilian Air Reserve, sponsored by the Nebraska Aeronautics Commission, has been started at Hastings with Frank Cushing, Dr. George Hensen and Ray Beebe, manager of Hastings Municipal Airport, in charge.

## 'Spin-Proof' Ercoupe at \$2,640



Production on the Ercoupe plane has begun following three years of research and development. It has been announced by Engineering and Research Corp., Riverdale, Md., makers of the craft which has been issued TC No. 718. Production is now at a stage where deliveries may be scheduled at the rate of one a week by June 15; two a week by July 15; three a week by Aug. 5, and one a day by Sept. 30, the announcement stated.

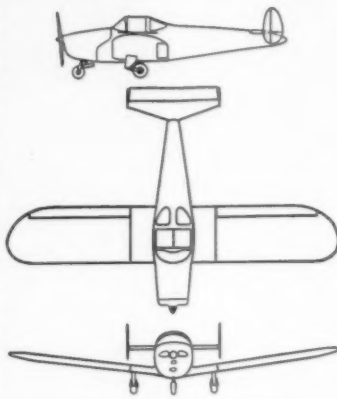
"It is absolutely impossible to spin the Ercoupe . . . has amazing stability—it will not get 'out of control,'" the company claims. The craft's all-erons, rudder and nose wheel are all mechanically coordinated so that turning is accomplished in the air, as it is on the ground, by turning the control wheel. The tricycle landing gear is said to eliminate the hazard of ground looping or nose overs. Price of the Ercoupe has been announced as \$2,640, FAF, Riverdale.

### Rhodie Flies for Allied Fund

Aline Rhodie, American mural artist and aviatrix, has planned a transcontinental airplane tour as liaison officer of the Aero Club de France to raise funds for establishing canteens for Allied aviators behind the battle lines in Europe. Her fund-raising flights will take her to every U. S. city having a large airport and will extend over several months. Miss Rhodie will fly alone in her monoplane.

### Yakima Airport Building

Officials of the recently incorporated Central Aircraft Inc. of Yakima, Wash., have announced construction plans for a \$45,000 concrete building at Yakima airport. The structure will contain hangar space for 30 planes, a club room, living quarters and offices, a restaurant and promenade deck for airport visitors. Incorporators are Herman A. Poulin, A. L. Baxter, Walter H. Rothe and W. B. Clark.



### AOPA Opens NY Office

The Aircraft Owners and Pilots Association has opened a New York office at 415 Lexington Ave. which will be headquarters for J. B. Hartranft Jr., AOPA executive secretary.

### Construction at 4 Airports

Lincoln, Neb.—Administration buildings will be constructed this spring at airports in Alliance and Fairbury, while hangars will be built at the Rushville and Gordon airports. L. E. Tyson, engineer for the state aeronautics commission, has announced. Commission also has approved a 55-acre field at Atkinson as a city airport.

### New Trophy to Cochran

The Air Service Post 501 of the American Legion in the New York City area has announced that the post's newly established William J. McGough Memorial Trophy has been awarded to Jacqueline Cochran for her outstanding contributions to aviation during 1939.

## Airplane Swapping to Precede All-Dixie Air Show, July 14

A novel swapping festival for fliers desiring to barter used planes for newer and faster models is planned by the Chattanooga Flyers Club on July 13, a day preceding the All-Dixie Air Show. Hundreds of craft of various types and descriptions are expected to descend on Lovell Field, Chattanooga, Tenn., for this first annual National Airplane Trading Day and several lightplane manufacturers have signified intention to display their latest ships.

Idea for the airplane round-up was conceived by Franklin German, secretary of the club, in the belief that the usual weeks of correspondence, travel and waiting accompanying plane trading will be eliminated with the centralized exhibit of wares. Manufacturers participating will include Aeronautical Corporation of America, Akron Aircraft Inc., Luscombe Airplane Corp., Aviation Manufacturing Corp., Waco Aircraft Co., Rearwin Aircraft & Engines Inc., Taylorcraft Aviation Corp., Culver Aircraft Corp., Porterfield Aircraft Corp. and Beech Aircraft Corp.

Planned as an attraction at the All-Dixie show, July 14, is a lightplane handicap race run over a two and a half mile closed pylon course. Visiting pilots are eligible and stock models, 40 to 80 hp. inclusive, with standard equipment may be qualified. Elimination heats are scheduled for July 13, the winners to race in the following day finals for a purse of \$100 total prize money. Entries will be received until July 4.

"Miss Dixie Aviation," chosen from beauties sponsored by aviation companies and flying clubs, will be crowned at the aviation ball, July 13. Last year a record crowd of 30,000 gathered for the All-Dixie celebration.

## New Sailplane Company Formed by Chicagoans

A new company which proposes to manufacture sailplanes and gliders and operate soaring schools, has been formed in Chicago. It was announced in May by Oscar G. Mayer, president of the Chicago Association of Commerce.

The company, Frankfort Sailplane Co., is to take over the assets of a glider company that has been operating at Frankfort, Mich., for the last year and a half. J. J. Smiley Jr., who has been connected with the Frankfort company, is to head the new concern, and Stanley Corcoran will direct manufacturing and school operations. Corcoran designed the ship to be marketed by the company.

Space has been leased at the Howard Aircraft plant, 5301 W. 65th St., and Howard's engineering department is now working on the type certificates for the single and two-place sailplanes. The first five ships are nearing completion.

A summer school of soaring at Frankfort, Mich., will be operated, and a Chicago soaring school will open in the near future, Smiley said. Several Chicago capitalists are reported participating in the company.

### Aeronca Names Distributors

Newly appointed distributors of Aeronautical Corporation of America, Cincinnati, O., makers of Aeronca planes, follow: Florida Aeronautical Corp., Orlando, Fla.; Charles Roberts, Dothan, Ala.; Southern Airlines, Atlanta, Ga.; A. R. Smith, Aberdeen, Miss.; E. W. Martin, Fitzgerald, Ga.; Ray Porter, Willoughby, O.; F. E. Machesney, Rockford, Ill.; Ellis Eno, Ft. Dodge, Ia.; Dan Hunter, Cedar Rapids, Ia.; Glenn Clark, Charleston, W. Va.; E. W. Forkner, Warren, O.; Pierce Flying Service, Eureka, Cal.; E. L. Sink, Roseburg, Ore.; Rock's Flying Service, Bristol, Vt.; Strachen Airways, Savannah, Ga.

**SSSHHH!** at 200 miles an hour



## WACO PRESENTS THE AIRISTOCRAT—TOPS IN "SPEED-LUXURY" PLANES

● All the comforts of home—in the air! The Airistocrat presents hitherto undreamed-of luxury with its deep, restful cushions, fine automobile-like interior finish, freedom from vibration, ample room for five persons.

For speed, for comfort, for luxury, the Airistocrat is years ahead in its horsepower class—and operates at the lowest cost per horsepower mile. See it. Write for the name of your dealer.

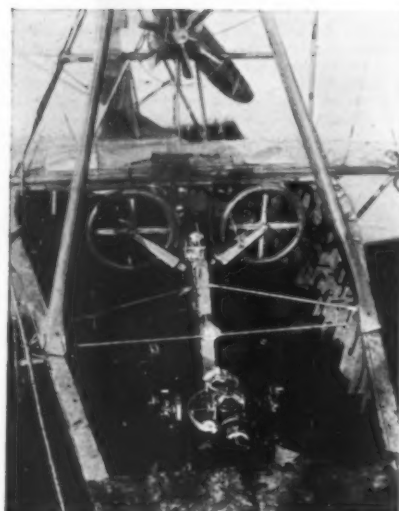
*Waco Airistocrat*

AVAILABLE WITH LYCOMING ENGINE  
... in addition to Jacobs, Pratt and Whitney, Wright



WACO AIRCRAFT COMPANY, TROY, OHIO

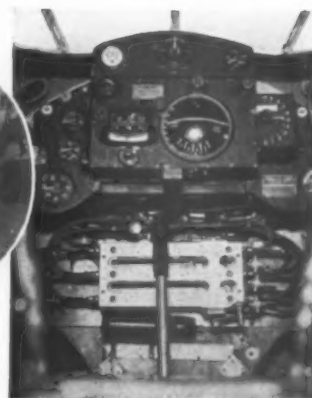




**LAWRENCE SPERRY**  
*First successful demonstration  
of automatic flight.*

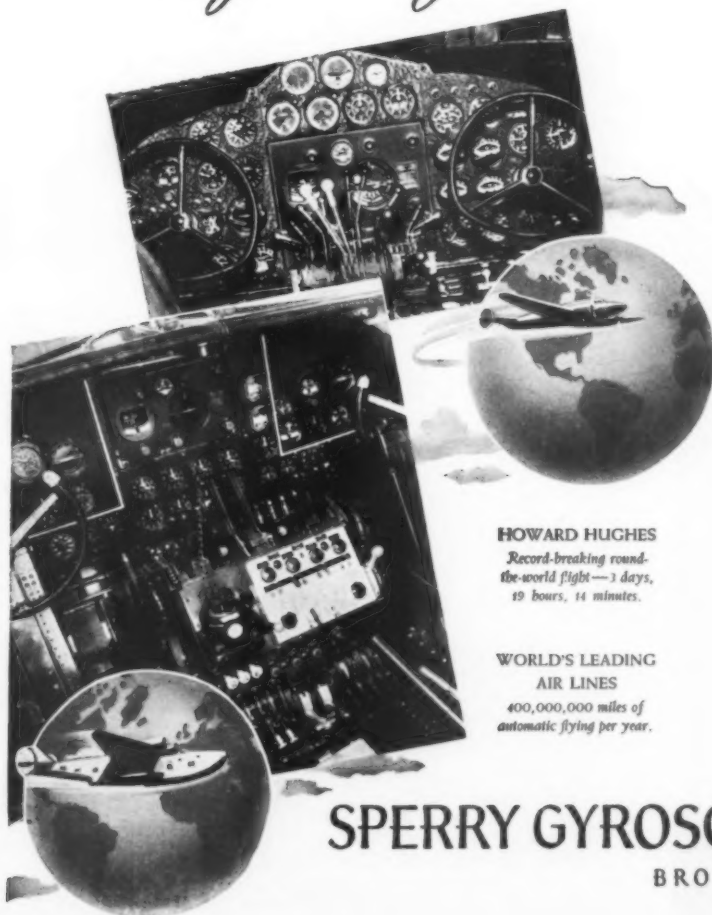


**WILEY POST**  
*First solo flight around  
the world—7 days, 15  
hours, 45 minutes.*



# The SPERRY GYROPILOT

## *25 years of continuous improvement*



**HOWARD HUGHES**  
*Record-breaking round-  
the-world flight—3 days,  
19 hours, 14 minutes.*

**WORLD'S LEADING  
AIR LINES**  
*400,000,000 miles of  
automatic flying per year.*

Since 1914, when Sperry gave the first practical demonstration of automatic flight control, the Sperry Gyropilot has been the subject of continuous research and improvement. Through the cooperation of the Army, the Navy, and leading air lines, Sperry engineers have studied the Gyropilot's operation during its millions of miles of monthly service. As the requirements of aviation have changed, so too has the Gyropilot been changed to include refinements and new characteristics based on its world-wide use.

In the new 1940 models of the Gyropilot are embodied the sum of these developments, accumulated during a quarter of a century of intensive research in the laboratory and in the field.

## SPERRY GYROSCOPE COMPANY, Inc.

BROOKLYN, N.Y.

Continental's "A" Series  
Red Seal Aircraft Engines  
From 40 to 80 H.P.



MORE POWER . . . LESS FUEL . . . AND  
SMOOTH DEPENDABLE PERFORMANCE

## Continental's Famous Red Seal Aircraft Engines

THE heart of every airplane is its engine. So specify the "heart" that never misses a beat, regardless of atmospheric conditions. Specify and insist on Continental Red Seal Power with Continental Fuel Injection for safety — power — and economy. All engineered in the Red Seal tradition of smooth, dependable performance. Red Seal Engines are standard or optional equipment on Aeronca, Dart, Luscombe, Piper Cub, Porterfield, Stinson, Taylorcraft, Welsh — and dominate the 40 to 80 horsepower field.



### MECHANICAL FUEL INJECTION an Exclusive Continental Feature

Here are three different reasons for the popularity of Red Seal Fuel Injection.

1. Positively eliminates carburetor icing.
2. No failure due to water in gasoline.
3. Smoother performance in every maneuvering position.

**Continental Motors Corporation**  
Aircraft Engine Division  
MUSKEGON, MICHIGAN

## CAA Outlines 1940-41 Advanced Phases of Civilian Pilot Training Program

A bulletin outlining plans for an advanced ground course phase and a controlled flight course phase of the collegiate part of the 1940-41 civilian pilot training program was issued May 10 by the CAA's private flying development division.

The advanced courses have been approved in order to make available further instruction to CPTP trainees who have successfully completed the controlled primary course, and who intend to make aviation their career, the bulletin said. The ground course is to be competitive and is to be conducted throughout the academic year, while the advanced flight course is to be offered in the summer of 1941 at 50 to 70 training bases.

Approximately 1,000 advanced flight training scholarships will be made available by the CAA for award in the spring of 1941, the bulletin stated.

Any institution which took part in the collegiate phase of the 1939-40 CPTP is eligible to offer the advanced ground course provided it declares its intention to the CAA on or before Oct. 1, 1940. Curriculum will include "intensive coverage" of aerodynamics and aircraft, civil air regulations, engines, instruments, meteorology, navigation, parachutes and radio aids and facilities.

Ground school students will pay a course fee, amount of which will be at the option of the institution. They

will also pay for a \$6 medical exam and their text books. The CAA emphasizes that no payment will be made by it to the institution for instruction in the advanced ground course.

When ground instruction is completed, the CAA will conduct competitive written exams for commercial pilot certificate at each institution. Successful candidates for advanced flight training will be selected by a board consisting of a representative of the institution, a representative of an advanced flight training contractor, and the CAA regional private flying specialist. Selection will be on the basis of the exam, physical qualifications, and prospective use of the training to be awarded.

The advanced flight course will consist of 45 to 50 hours of dual and solo flight instruction to be given over a period of about 10 weeks, beginning June 15, 1941. Instruction will be conducted at 50 to 70 geographically distributed training centers, selection of which will be announced by the CAA on or before Apr. 1, 1941. Operators and locations will be selected on recommendation of the CAA regional offices.

The CAA will contract with a flight operator for the training of a definite number of students at \$750 per student. Students will pay transportation to the center, cost of subsistence and premium of an insurance policy.

### New de Bothezat Helicopter Tested at Long Island City

First trial flight of a streamlined helicopter built by the late Dr. George de Bothezat was engineered successfully by Capt. Boris Sergievsky, ace test pilot, in the tiny paved landing field of the Helicopter Corporation of America, Long Island City, N. Y., May 9. Capt. Sergievsky made no attempt to rise more than three or four feet off the ground and during the test ropes attached to the four rubber-tired wheels of the 600-lb. craft were fastened to iron rings set in the concrete runway as a safety measure in the event of an unexpected maneuver.

Watson M. Washburn, New York attorney, now heads the corporation.

**New Type Sailplane Built**  
Students of Aero Industries Technical Institute, Los Angeles, have completed an all-metal cockpit sailplane, first of its type ever built. The craft, which embodies wing flaps, will fly in the 3d Annual Southwestern Scaring Contest at Wichita Falls, Tex., June 9-23.

**PFA Names 'Jim' Taylor**  
James B. "Jim" Taylor, Jr., professional test pilot and experienced private flyer, has accepted appointment as technical adviser to the Private Flyers Association.

### RCA Introduces Aircraft Receiver

The new model AVR-7H aircraft receiver which follows the basic RCA aviation design in models AVR-7D, E, F and G, recently was announced by RCA Manufacturing Co. Inc., Camden, N. J. The AVR-7H is a five-tube superhetrodyne receiver covering the bands of 195-420 kcs., 495-1,400 kcs.



and 2,300 to 6,700 kcs., 495-1,400 kcs. and 2,300 to 6,700 kcs. A built-in beat frequency oscillator permits reception of CW signals.

An aural-null direction finder attachment model AVA-56 which may be added to the receiver will be available early this summer, it was announced.

Model AVR-7H receiver is fully remote controlled and is equipped with built-in vibrator power unit. Weight complete with tubes, headphones and cables is 31 lbs. and 3 ounces. It has received CAATC No. 440.

### Boosting Birmingham's Carnival



Committee chairmen for the 10th annual National Air Carnival, scheduled for June 1-2 at Birmingham, Ala., Municipal Airport, are shown in this publicity shot. First row, left to right, are Earle Wheeler, Harry Frazier, Dr. L. A. Tatum, Hayden Brooks, J. D. Rosenburger, Jr., Robert L. Sims, E. W. Stanford, P. Y. Whitman and Harold F. Wood.

Second row, left to right, are Steadham Acker, director; George J. Nealans Jr., Jerome Phillips, George D. Patterson Jr., Mervin Blach, Mrs. Frances Peacock, W. J. Wise, Brown G. Hill, Katherine Oliver, Luther Cale, Robert S. Smith, J. Moses Holmes and Charles A. Jones, Jr. Chairmen not shown in picture are George W. Cowden, Milton Yelding and Asa Rountree, Jr.



## Borrowed Planes May be Attached for Fines, CAA Warns

Following settlement of a test case in Ft. Worth, the CAA announced May 19 that owners of aircraft who lease, rent or lend their planes to other pilots will hereafter be liable to having those planes attached by the government as security for payment of penalties imposed on the flyers for violation of safety regulations.

O. L. Holden of Ft. Worth borrowed a plane from H. L. Wood of the same city and committed a violation subjecting him to a penalty of \$1,000. Because Holden did not submit an offer to compromise, the CAA referred the case to the Attorney General. Action was begun in the U. S. District Court for the northern district of Texas and involved a libel of the aircraft that had been used, making it subject to lien. Holden admitted the charge against him.

The court assessed a fine of \$100 and ordered the U. S. marshal to sell the plane for satisfaction of the judgment unless the fine was paid.

## Lightplane Committee Formed Within ACCA

A permanent lightplane committee within the Aeronautical Chamber of Commerce to handle manufacturing problems was formed at the light airplane and engine manufacturers meeting in Pittsburgh on May 13.

Members of the committee and officers to serve until May 15, 1941, are Richard H. Depew, Jr. of Taylorcraft, chairman; D. H. Hollowell of Continental Motors, vice-chairman; Vincent Ford of the Aero Chamber, secretary; Carl Wootten, Aeronca; J. H. Torrens, Luscombe; T. V. Weld, Piper; W. L. Pinney, Porterfield; W. A. Mara, Stinson; Richard E. Palmer, Lycoming; Robert E. Fowler, Aircooled Motors. Subcommittee on publicity includes Fowler; William Strohmeier of Piper; Stanley A. Hedberg of Stinson, and Howard Mingos of the Aero Chamber.

Nine lightplane and engine manufacturers were represented at the meeting.

## Palm Beach Debut



About 7,000 residents and winter visitors of Palm Beach and West Palm Beach attended the premier showing of Stinson's new "105" for 1940 at Morrison Field a few weeks ago. Shown above is Miss Daphne Palmer, only girl member director of aviation for Palm Beach County and South Florida distributor group, and Wright "Ike" Vermilya, Jr., of the Junior College CAA training for Stinson.

## ASB Reports to CAA on 474 Accidents

Violations of the Civil Air Regulations were indicated in 12 of the 20 fatal accidents analyzed by the Air Safety Board and transmitted to the CAA during April. It was announced May 17.

A total of 474 aircraft accidents were reported upon during the period, and violations of the CAR appeared to be factors in 30. Of the 20 fatal accidents, 11 resulted from stalls or spins. Two of these involved low acrobatic flying, two faulty engine maintenance, three structural failure or faulty maintenance. Two resulted from pilots continuing flight into adverse weather, one from the pilot failing to recover from an acrobatic maneuver, and the other from two planes colliding in mid-air.

After citing nine examples of structural failure in flight during 1939 to fabric-covered planes which had been in service seven years or more, the ASB recommended that the CAA "take the necessary steps to insure a more than ordinary detailed and rigorous inspection of all fabric-covered aircraft which were manufactured more than seven calendar years preceding the date of inspection, and that diligent effort be made in all such cases to assure the unquestioned airworthiness of the aircraft involved before they are recertificated."

It was also recommended that the CAA "take necessary action to eliminate the use of rawhide chafing strips in connection with aircraft control cables."

A total of 501 aircraft were involved in the 474 accidents, 27 of the crashes being the result of air or ground collisions in each of which two aircraft were damaged. There were 794 persons involved, 29 of whom received fatal injuries, 21 serious injuries, and 26 minor injuries, while 716 escaped unhurt. Damage to aircraft resulted in 42 planes being destroyed, 411 severely damaged, 42 slightly damaged, while six were involved in accidents without becoming damaged.

## Lightplane Starter Weights 3½ Lbs.

A lightweight mechanical starter, incorporating a ratchet mechanism, designed for starting the engine of lightplanes by the pull of a handle located on the dash, is a new product of Aero Starters, 951 Union Trust Bldg., Pittsburgh, Pa. With the device the pilot may spin the engine over from his seat, and it is possible for him to keep the engine spinning by successive pulls on the starting handle until it starts. Weight of the entire installation is three and one-half pounds.

The starter is now available for the A-40 series of Continental Motors and models for all makes of lightplane motors will be in production shortly.

Starter was developed by R. V. Trader. Officials of the company include Charles E. Young, attorney; Trader, development engineer, and W. E. Larson, vice-president of Superior Railway Products Corp., who will be in charge of manufacturing. Company has secured factory space in Pittsburgh.

## Lightplane Generators

Champion Aviation Products Co., Los Angeles, Cal., has announced light-weight, wind-driven generators "at a price within the reach of all lightplane owners." Six-volt models of 6, 12 and 20 ampere capacity weigh 6, 8 and 13 lbs. Twelve-volt models are available in 4, 8 and 15-amp. sizes.

## Seaplane Service Opened

James A. Megerle, Albert Comello and Stewart Baker, all of Cincinnati, O., have announced opening of their firm, Seaplane Service Inc., on the Ohio River opposite Lunken Airport, Cincinnati, for seaplane instruction and seaplane charter service. Company is operating an Aeronca Chief seaplane powered with a 65 fuel injector Continental engine.

The Unsurpassed Record  
OF THOUSANDS OF DEPENDABLE  
**KINNERS**  
is Behind the Kinner  
You Buy Today!

WHATEVER service you demand of an airplane engine, Kinner Engines have already demonstrated their ability to give you unsurpassed performance, reliability and economy for that particular job. Kinner Engines have earned their reputation in commercial and military training, with private fliers and with commercial operators around the world.

Today, volume production enables the new Kinner company to feature attractive low prices on all models. Despite heavy domestic and foreign delivery schedules, Kinner Engines are available in sizable quantities for prompt delivery.



**KINNER MOTORS, Inc.**  
GLENDALE, CALIFORNIA, U. S. A.



# *Stratoliners Go Transcontinental*

**T**O TRANSCONTINENTAL & WESTERN AIR, INC., goes the distinction of being the first domestic airline to introduce the new and modern 4-engine type transport planes and to begin the long anticipated 4-engine era in this nation's over-land air transportation. To BOEING goes the distinction of delivering the world's first altitude-conditioned airliners, designed for comfortable "over-weather" flight at high altitudes. Thus, to cross-country air travelers comes the added speed, stamina and reliability of 4-engine BOEING Stratoliners, heirs to the supremacy of the BOEING Flying Fortresses of the U. S. Army Air Corps. Of like significance is the inauguration of BOEING 307 Strato-Clippers in intercontinental service to Rio de Janeiro by Pan American Airways, whose BOEING 314 Clippers regularly fly the oceans. TWA's coast-to-coast Stratoliner service, linking Pan American's Atlantic and Pacific Clipper service, completes a 4-engine super-airway circling two-thirds of the globe, Lisbon to Hong Kong, with BOEING planes on regular schedules all the way.

*Boeing has always built tomorrow's airplanes today!*

**BOEING AIRCRAFT  
COMPANY**  
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AIRCRAFT DIVISION  
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## TWA Stratoliner Section

## Public Inspects New Transport



The Stratoliner rests in front of the administration building at Kansas City Municipal Air Terminal, TWA's operating base.

## Crews of Five Deliver Stratoliners to TWA for System Proving Flights

The first plane in the fleet of five four-engined Boeing Stratoliners built for high altitude flying was delivered recently to TWA from the Boeing factory in Seattle, being flown from there to Portland by Capt. Otis Bryan, TWA's chief pilot. The 33-passenger transport was flown to Burbank where it began its extensive proving flights over the line's coast-to-coast route.



Capt. Bryan

Second and third planes were flown directly to Kansas City, Mo., TWA headquarters, one by way of Denver, Colo., and the other by way of Los Angeles and Albuquerque, N. M.

At the controls with Capt. Bryan in the flight of the first Boeing was L. G. Chappiano as first officer. Two flight engineers, L. E. Hubbard and F. E. Pirk, accompanied the first Stratoliner, one serving as special observer, and two of TWA's hostesses completed the crew of five that will be on duty on all flights of the new planes. Peter H. Redpath, TWA navigation flight engineer, accompanied the flight as observer.

The second plane was flown to Kan-

sas City with Capt. W. G. Golien in charge of the crew. F. G. Richardson was first officer and R. R. DeCampo and F. A. Parent were aboard as flight engineers.

The third Stratoliner was flown to Kansas City with TWA's chief engineer, D. W. "Tommy" Tomlinson, at the controls and W. M. Campbell acting as first officer. R. M. Dunn was flight engineer and two hostesses completed the crew.

### TWA Expands Personnel Dept., Appoints Obermiller

Expansion of the personnel department of TWA, including the appointment of H. B. Obermiller as assistant personnel manager, was announced recently by L. M. Reed, personnel manager.

A separate division of the department for office management will be headed by William F. McCormick, assistant office manager.

William R. Pearce, former chief clerk of the department, will become employment supervisor, Reed said.

### Airport Name Restored

The St. Paul, Minn., city council has restored the name, St. Paul Municipal Airport, to the air field which has been known as Holman Municipal Airport for nine years. The airport was named after Charles W. "Speed" Holman, veteran pilot who died in 1931 at Omaha.

## TWA To Launch First 4-Motored 'Overweather' Service in July

New Era in U. S. Air Transport to Be Opened With 33-Passenger Boeing Stratoliners; Will Cut 1 Hour Off Transcontinental Schedules

A new era in commercial air transport in the U. S. will be ushered in during July when Transcontinental & Western Air Inc. will put into service its new fleet of 33-passenger four-engined Boeing Stratoliners over its coast-to-coast route.

Thus the long-awaited advent of four-engined transports will take its place among the important stepping stones in the development of an air transportation system in this country.

The Boeings will not only carry more passengers than any transports now in service, but will cut an hour off transcontinental flying time. TWA set the pace for 16-hour coast-to-coast service in 1933, and in 1940 TWA will retain the fastest transcontinental scheduled flying with a new 14½ hour operating time.

The Stratoliners bring the name of Boeing back into prominence in domestic airline operations, and will give TWA an edge of almost two years in inaugurating four-engined transportation.

Plans for inauguration of schedules have not yet been completed. TWA has taken delivery of all five of the transports and is now putting them through the required 100-hour check periods and engaging in pilot training. The first schedule is expected to be transcontinental, with a New York-Chicago non-stop "merry-go-round" service being started shortly thereafter.

The Stratoliners also bring to domestic air transportation the first "overweather" pressurized cabin planes to be used in passenger operation. The cabin of the Stratoliner is built with sealed walls and can be supercharged so that the air density within the cabin at sub-stratosphere levels is the same as at normal flying levels, giving the passenger almost sea-level air and high altitude comfort and speed.

Inauguration of Stratoliner service climaxes a decade of growth for TWA, which began 10 years ago as the old Transcontinental Air Transport.

On July 8, 1929, a tri-motor Ford

with Capt. Jack Zimmerman, now TWA's chief pilot in the eastern division, in the cockpit, soared away from Port Columbus, O., on the first air leg of a 48-hour air-and-rail trip across the country.

Two years later TWA put into service the first all-air day-and-night passenger service by any transcontinental airline, and two years after that TWA introduced the first of the modern planes, the Douglas DC-2, over its "Sky Chief" route.

### Herre Assists Talman; TWA Expands Depts.

Appointment of Carl Herre, budget officer, as assistant to E. Lee Talman, vice-president and treasurer of TWA, has been announced in connection with an expansion of the line's financial and accounting departments.

Talman said Harry G. Kraft, also assistant to the vice-president and treasurer, would serve as manager of eight accounting departments.

TWA's expansion program also includes enlargement of the duties of George O. Thornley as revenue auditor to include supervision of field auditors and revenue departments. E. M. Bowers, supervisor in the revenue department, was appointed field auditor to direct work of district auditors. Milton Schneider, tax and insurance department clerk, will become revenue supervisor in charge of passenger, mail and express revenue divisions.

### Advertising Program

TWA is launching its new Boeing operations with both national and local advertising. Four-colored advertisements are being carried in leading national magazines under the direction of J. C. Roberts, TWA advertising manager, and Beaumont & Hohman, the company's advertising agency. The four-colored advertisement on the back cover of this issue also appeared in "Time."

## TWA Executives Launching the 4-Motored Era



Jack Frye  
President



Paul Richter  
Exec. Vice-President



T. B. Wilson  
Chairman of the Board



Vincent P. Conroy  
Vice-President-Traffic & Sales

*Once again, when air history is made,*  
**KOLLSMAN INSTRUMENTS** are there!



The giant Boeing "Stratoliner" which  
 TWA now puts into service over its  
 transcontinental route are flying with  
 Kollsman Precision Instruments among  
 those present!—as might be expected.

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INSTRUMENT DIVISION OF **SQUARE D COMPANY**

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WESTERN BRANCH: GRAND CENTRAL AIR TERMINAL, GLENDALE, CALIFORNIA

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## TWA Stratoliner Section

## Stratoliner's Cabin Width Greater Than 'Streamliner' Railway Cars

The body design of the new Boeing Stratoliner, five of which soon will see service on TWA routes, has been described as an "elongated teardrop," completely streamlined, perfectly circular in cross-section from nose to tail. The all-metal, low-wing monoplane has a body diameter of 11½ ft., giving a cabin width slightly greater than that of the modern "streamliner" railway trains. Overall length is 74 ft. 4 in. Wing span is 107 ft. 3 in., and overall height is 20 ft. 9½ in.

The plane weighs 30,000 lbs. empty and carries a useful load of 15,000 lbs., making a gross weight of 45,000 lbs. Passenger capacity is 33 persons by day or 25 by night (16 berths plus nine individual reclining chairs). Maximum cargo capacity in holds below the deck is 6,990 lbs.; fuel capacity is 1,700 gallons.

Powerplants of the model 307-B are four Wright GR-1820-G105A Cyclones, which drive three-bladed Hamilton Standard hydromatic, constant-speed, full-feathering propellers of 11½-ft. diameter. Each engine develops 1,100 hp. for takeoff and has a normal rating of 900 hp. at 6,700 ft. or 775 hp. at 17,300 ft.

Performance figures for the Stratoliner have been released by Boeing based on data taken in flight tests. Speed figures and landing distance are on the basis of standard gross weight of 42,000 lbs.; all other figures are for provisional gross weight of 45,000 lbs.:

High speed at 16,200 ft.	250 mph.
Cruising speed at 19,000 ft.	222 mph.
Landing speed	70 mph.
Rate of climb, 4 engines	1,200 ft./min.
Rate of climb, 3 engines	600 ft./min.
Rate of climb, 2 engines	113 ft./min.
Takeoff distance	927 ft.
Takeoff over 50-ft. obstacle	1,800 ft.
Landing run over 50-ft. obstacle	2,050 ft.
Service ceiling, 4 engines	24,000 ft.
Service ceiling, 3 engines	18,350 ft.
Absolute ceiling, 2 engines	7,950 ft.
Range with maximum payload	800 mi.

After release of the 307-B, the Boeing company made the following announcement concerning the four-engine craft's performance:

"Stability and controllability of the plane are such that when one engine is stopped and others are turning at full power it is possible to retain straight flight without the use of the rudder pedals, at all speeds between 90 mph. and the maximum three-engine speed. With maximum load and only three engines operating it is possible to climb to more than 18,000 ft.

"With two engines stopped on one side and the other two at full power it is possible to trim the airplane for straight flight with controls free at all speeds between 110 mph. and the maximum two-engine speed, and in this condition it is also possible to make turns with ailerons alone (rudder free). Loaded to its maximum gross weight, the airplane can climb to nearly 8,000 ft. with two engines inoperative."

## Frye Emphasizes TWA's Record as Transport Pioneer

Jack Frye, president of TWA, has commented on the new Stratoliner service as follows:

"We believe the inauguration of four-motor high altitude equipment, in addition to the regular service TWA now operates between New York and the Pacific Coast, will be as significant a landmark in air transportation as was the beginning of transcontinental passenger service which TWA pioneered 10 years ago.

"The new fleet of four-motor planes climaxes a cycle of development in which TWA and its predecessor companies have been pioneers. We believed in the future of Douglas twin-motor planes when we introduced them into service for the first time five years ago and that equipment is now standard on all major lines in this country.

"We have the same confidence in the future of the four-motor Boeings, which will permit us to add to the speed and comfort of our long-haul schedules across the country, while we continue to maintain the schedules we now operate with the twin-engine Douglas equipment.

"This move is consistent with TWA's policy over a period of years in which we have established a record that we believe it not equaled by any other airline in the world—of pioneering developments in air transport through our research facilities and being the first to place these developments into regular service for air travelers."

## Radio Bulletins Available

Radio Receptor Co. Inc., 251 W. 19th St., New York, N. Y., has issued bulletins No. 5000 and 5001 describing an ultra-high frequency airport traffic control transmitter and also the company's series No. 424 ultra-high frequency communications and airport traffic control receivers.

## 307's Interiors are Luxurious



A Stratoliner compartment seats six by day and converts into berths for four at night (top photo). New Boeings in TWA service will carry two hostesses as shown at work in the galley. Facilities include a ladies' charm room, occupied by the blonde at right, who sits at one of two dressing tables.

## TWA's Chicago Manager



Hawthorne

Ft. Wayne, Ind., district manager for TWA. Hawthorne joined TWA in 1936.

## Gov. Smith Names O'Leary

Wilfred O'Leary of Cheyenne has been renamed to the state aeronautical commission for a two-year term by Gov. Neils H. Smith of Wyoming.

## Planck, Shaw Open Capital Office

Charles E. Planck has opened an office in Washington, D. C., with B. Russell Shaw as an associate, to handle sales, publicity and general representation of aviation and radio firms in Washington.

## New Scenic Thrills

High altitude flying above most cloud formations where the atmosphere is far clearer and the landscape more clearly defined will bring more opportunities for camera addicts. TWA expects to fly often at from 16,000 to 20,000 feet, giving passengers new scenic thrills. Although flying at that altitude has been experienced by many pilots, few passengers ever reach those heights. The Grand Canyon, for example, will be viewed in its entirety in a single glance on clear days from 20,000 feet.

## A New Transport Ready for the Skies



Wing spread of the four-engined Boeing Stratoliner, known as model 307, is 107 feet.

## TWA Stratoliner Section

## Tomlinson Completes Overweather Study for TWA After Five Years

When the first of five Boeing Stratoliners, which TWA will put into service over its coast-to-coast route, soared into the air on its delivery flight early in May, it marked the end of one of the strange assignments in flying history



Tomlinson

for Capt. D. W. "Tommy" Tomlinson, TWA's chief engineer. Tomlinson's assignment was given him about five years ago by the airline's young president, Jack Frye, and it consisted of spending the greater part of his flying time six miles off the ground.

Tomlinson carried out his task with strict attention to orders and his work, more than any other factor, has made possible the inauguration of over-weather flying by TWA.

During five years of exhaustive research carried on by Tomlinson in a single-motor Northrop experimental laboratory and in the Douglas DC-1 equipped with highly supercharged engines, his airline spent more than \$100,000 finding out what high altitude flying was like, both for the passenger and plane.

The results briefly were these:

1. Flying overweather or above the 16,000 to 20,000 foot levels—eliminated

over 95% of weather troubles which sometimes forced planes to cancel flights and remain on the ground.

2. Riding in the smooth air upstairs was the most comfortable Tomlinson ever encountered in a long career of naval and commercial flying.

3. Radio reception was better than at the lower levels in storm conditions. Only slight interference was encountered in high cirrus clouds due to the minute ice crystals which form the cloud. This could be readily eliminated by certain types of antennae.

4. Speeds increased with altitude, the speeds at the 33,000-foot level being approximately 34% greater than speeds at normal flying levels using the same amount of power.

5. Few dense cloud formations or thunderheads were encountered above 20,000 feet, and the turbulence, or rough air, was absent as the plane rode smoothly through the haze-like cirrus wisps.

6. The view from 16,000 feet and above was far wider and clearer than at normal flying levels of 5,000 to 8,000 feet.

Tomlinson's experiments in over-weather flying have taken him as high as 36,000 feet on routine flights, and on one occasion he flew from Kansas City to New York in 7 hours and 13 minutes, and was on instruments for 7 hours and 11 minutes of the flight.

Tomlinson also made numerous flights at altitudes of 16,000 to 20,000 feet to determine conditions of radio reception and visibility in clear air.

The increased speed above 16,000

## Hostess Dwarfed



Height of the tail section of the new Stratoliners is illustrated by this TWA hostess who is dwarfed by the huge ship's size. Tail section height is 20 feet, 9 inches.

feet will cut scheduled flying time across the country considerably when the TWA Stratoliners are placed in service. In experiments in the Northrop Gamma, Tomlinson estimated that he got as much as a 34% increase at 30,000 ft.

As a result of his tests, Tomlinson recommended the following:

1. Airplane weather observation flights at 30,000 feet with planes made available by the Army or a special department of the Weather Bureau.

2. Establishment of meteorograph stations to augment data from weather observation planes, up to 50,000 feet.

3. Develop a high speed transcontinental air mail service using aircraft capable of cruising at 30,000 feet on one-stop schedules from coast to coast.

4. Regular air transport operations, starting at 16,000 feet to 20,000 feet, and increasing the altitude of operation from 30,000 to 35,000 foot levels within the next 10 years.

## Dayton Hangar Planned

Plan for the construction of a new \$75,000 hangar at the Dayton, O. Municipal Airport is reported by Russ Moore, head of Moore Flying Service located there. The building, to be financed by a group of local business men incorporated with the flying service, will provide class rooms, office and shop space, and other necessities of modern airport operation. New corporation, according to Moore, will operate a flying school consisting of primary, advanced and instrument training plus a complete course in ground instruction.

## Air Youth Appeal

Air Youth of America, through its president, Tom Beck, has made an appeal in a brochure for a fund of \$73,000 to make possible a national program of educational and recreational activities in aviation for youth under 18. Of a total of \$99,075 needed to initiate the program, \$26,000 already has been contributed.

## AITI Builds Geodetic Plane

Aero Industries Technical Institute, Los Angeles, is building a geodetic construction two-place sportsplane and has reported the craft ready for static load tests.

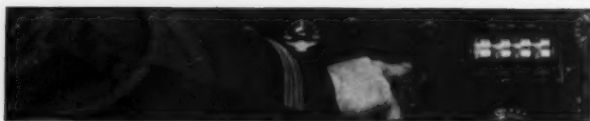
# FOR PERFECT CONTROL OF FUEL-AIR RATIO

# CAMBRIDGE

# AERO-MIXTURE INDICATOR

## IN THE NEW

# TWA STRATOLINERS



A 4-POINT INDICATOR UNIT FOR FOUR-ENGINE SHIPS TO CONTINUOUSLY SHOW FUEL-AIR RATIOS OF ALL MOTORS

Designed as a flight instrument, the Cambridge Aero-Mixture Indicator determines the fuel-air ratio of the engine mixture by analyzing a sample of the exhaust gas. The indicator, calibrated over a range of from .11 to .065 F.A.R., provides a continuous guide enabling the pilot to control accurately the all-important mixture ratio at sea level or high altitude.

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Pioneer Manufacturers of Precision Instruments





## *Air Transport* CLIMBS TO NEW HEIGHTS



THE NEW BOEING 307  
"STRATOLINERS" FOR  
TWA AND PAN AMERICAN

**C**ONGRATULATIONS—To Boeing, for another outstanding contribution to the progress of commercial air transportation—

And to TWA and Pan American for their selection of the new Boeing 307 "Stratoliners."

Eclipse is justifiably proud of the fact—that once again—a complete line of Eclipse Accessory Equipment has been selected to participate in this latest engineering achievement.

### **ECLIPSE AVIATION**

DIVISION OF BENDIX AVIATION CORPORATION  
BENDIX, NEW JERSEY, U. S. A.

## *Eclipse-* **EQUIPPED!**

ECLIPSE PRODUCTS USED ON BOEING 307 AIRPLANES—Direct Cranking Electric Starters—Solenoid Relays—Battery Booster Coils—Single Voltage DC Generators—Autosyn Alternators and Dynamotors—Landing Gear, Flap and Tail Wheel Retracting Motors—Propeller Anti-Icer Pumps and Rheostats—Air Check Valves—Vacuum Instrument and De-Icer Pumps—De-Icer Distributing and Control Valves—Engine Synchroscopes.

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## Hardin Urges Stringent Safety Rules for Non-Scheduled Operators

The number of recent fatal accidents in non-scheduled commercial operations has convinced the Air Safety Board that more effective safety regulations are inevitable in this field of flying before it can be placed on a sound and profitable basis, according to Tom Hardin, chairman of the Safety Board.

Speaking at the Southwest Aviation Conference, Tulsa, Okla., recently, Hardin explained that the ASB believes higher standards should be required for both personnel and equipment in non-scheduled passenger-carrying operations.

The greatest hazard to the safety of the U. S. airlines during the next two or three years will be the expansion program, not only in new routes, but in expansion of service on existing routes, he said. "In response to an increased public demand for more frequent schedules the temptation to rush the promotion of co-pilots with a minimum experience to the left-hand side of the cockpit with all its attendant responsibilities will be great," he added.

Hardin summed up the three "major air safety objectives" as follows: (1) "for the scheduled air carrier—unceasing vigilance and rigid adherence to the highest standards of safety in operation, with particular emphasis on avoiding any tendency to subordinate safety to the demands of expansion; (2) more adequate safety regulations which will bring about replacement of irresponsible, poorly equipped and inadequately financed, non-scheduled operators with competent charter service operators capable of discharging the full responsibilities of a common carrier. This type of operation will never become a sound business until, like the airlines, all charter operators meet an acceptable minimum standard of responsibility and safety.

"(3) In accordance with our previous recommendations, we urge production by the industry of airplanes for the private flyer that are inherently simpler to operate and safer to fly than those now generally available so that their businessmen buyers need not go through a long and arduous period of training in order to operate them with reasonable safety. Unless this is done, the wide acceptance of the private airplane as a means of economical, personal transportation, with the high degree of utility it should offer, will be delayed for many years."

Devoting a substantial portion of his speech to non-scheduled commercial carriers, Hardin stated that if the airlines can transport over 2,000,000 passengers safely in a year or more, there is no reason why similarly sound operating practices should not enable non-scheduled operators to do likewise. The problem of regulation, particularly the development of self-regulation and control, is a major factor in the present difference between the safety record of airline flying and non-scheduled flying, he said.

"The figures speak for themselves," Hardin stated. "The scheduled airlines flew a total of 82,554,239 revenue miles in 1939 and suffered only two fatal accidents. In the last 13 months, 90,000,000 miles were flown without a fatality. Private flying activities, on the other hand, showed a total of 182,000,000 miles flown and 189 fatal accidents during the same period, an average of only 962,962 miles flown per fatal accident."

"Discouraging as the latter figures are in comparison to the showing made by the domestic airlines, they nevertheless display a marked improvement over private flying activities in 1938 with its total of 129,359,095 miles flown and 172 fatal accidents,

### Salesmanship



Ashburn Flying Service, Beacon Field, Alexandria, Va., one of the best known private fields near the nation's capital, has opened an office and display room on fashionable Connecticut Avenue in Washington to attract prospective plane owners and student flyers. W. R. Ashburn is president and W. N. Offley is vice president of the company. The flying service is a government approved school offering primary, advanced and instrument training.

an average of 752,088 miles between fatal accidents.

"Another interesting fact brought out by the Board's analysis is that the airlines in 1939 for the first time carried more passengers than were transported in private and charter service aircraft, the air carrier total for the year being 1,717,090 passengers as compared to the private flying total of 1,640,000. The staggering difference between passenger safety on the airlines and in private flying demonstrates, beyond any possible argument, the results that can be achieved through controlled flight operations as contrasted to uncontrolled flying."

Although there are a number of well-qualified pilots in non-scheduled flying, the minimum requirements are "lamentably low," Hardin said. Concerning equipment, he pointed out that a great many operators do not have first-class, well-maintained planes.

### Painted Props

CAA civilian pilot training program students of Southern Airways Inc., Augusta, Ga., were getting too close to idling propellers because they could not easily see the propeller arc. To prevent this, the management had three uniform stripes of red, blue and silver painted on the tips of each prop. When in motion, the silver stripe shows the prop arc, and the red and blue merely combine to give a neat appearance when the engine is not running.

The Safety Board, he stated, "sees no reason why the lives of charter service passengers should not be safeguarded with the same zealous care accorded patrons of the airlines. We know of many instances in which non-scheduled operators have undertaken to transport passengers at night through weather so adverse that the airlines had canceled operations. Ordinarily, the non-scheduled operator . . . should cancel out ahead of the airlines."

Hardin urged the early mass production of spin-proof, stall-safe airplanes so that they will be available to private flyers everywhere. He also revealed that the ASB "is about to conduct a series of flight tests with a relatively simple and inexpensive device which gives promise of vastly improving the stalling characteristics of private airplanes already built and flying, thus avoiding many spins which otherwise would occur. If the experiments prove successful, an effective answer will have been found to the criticism that 'nothing can be done to make existing airplanes safer.'"

### 99's to Meet in Denver

Members of the Ninety-Nines, international organization of women pilots, will hold their annual convention on July 6-7 at the Brown Palace Hotel, Denver, Colo.

"Ignition by Scintilla"

enhances an engine's efficiency

There's no denying the fact that aircraft engines are a modern miracle of mechanical efficiency. Equip them with ignition by Scintilla and their efficiency is enhanced and maintained—there's no denying that fact, either. For "Ignition by Scintilla" says safety, reliability, durability and all the other words that count for so much in aviation progress. The sheer excellence of Bendix-Scintilla Aircraft Ignition Equipment has earned its preference by every branch of aviation—the Army, the Navy and every airline in America.

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## UAL Capt. Bob Dawson Advocates Classifying Weather Scientifically

Application of a simple formula to weather data, enabling a classification according to type, and eliminating the present airline practice of "constantly discussing our weather problems," was advocated by Capt. Bob Dawson of United Air Lines at the recent Southwest Aviation Conference at Tulsa, Okla.

"Suppose we apply a mathematical formula to weather, over a given division and receive a mathematical result, or type, on which to base our operations," Dawson said. "Let's take the ideal weather conditions—clear and unlimited from one end of the division to the other, with no weather moving on the course during the period. This will become 'type 10' weather."

"Now let's evaluate all of the elements which go to make weather. The approach of a front will be charged with perhaps 1 to 3, depending upon the activity within the front, amount of moisture present, cloudiness, precipitation, kind, amount, etc. In fact, every condition that goes to make weather will be analyzed and weighed in the weather laboratory, evaluated and subtracted from the ideal condition—type 10—so that from time to time we will arrive at a weather type of 9-8-7-6-5, etc., all flyable and routine."

Type 4, Dawson said, would become recognized as the first type which may cause irregularities en route, but the trip would depart. Type 3, he added, would give about a 50-50 chance of arriving at destination on time, while type 2 would be weather not flyable

during the present six-hour period, but a possibility of flying in the next one. He described type 1 as "the birds are walking and may continue for a undetermined period."

"Suppose we make use of our past experience and set up certain operating limits or requirements for each type of weather we have to deal with, so that when the captain walks into the operations office he will find, shall we say, type 7 weather will prevail for trip 3," Dawson said. "The next step will be to look at the requirements for type 7 weather and the conditions under which trip 3 may operate, gasoline requirements, emergency fields, etc. Can trip 3 meet the requirements of type 7 weather? Yes—then the trip will operate as planned. If not, the trip is canceled there and then, without further discussion."

The old weather bureau would be converted into a weather laboratory, in which the meteorologist would analyze, understand and weigh all data, apply the simple formula and secure the result of type, Dawson explained.

"This operating procedure will stop the present practice of constantly discussing our weather problems," he said. "We will be operating under known conditions. The passenger will learn to have a greater confidence in our operations, because he understands figures. He uses them every day; they are a part of his business."

"Of course this typing will necessitate a large educational publicity campaign, but by its very nature it will be intensely interesting. Everyone is interested in the weather."

"When Mr. Brown calls an airline to make his reservation he asks, 'How's the weather?' The answer will be 'Mr. Brown, the weather between New

From \$1,390 Up



Flight tests are now being conducted on a new model Aeronca tandem trainer at the plant of Aeronautical Corporation of America on Lunken Airport, Cincinnati. Trainer's fuselage has been designed with sufficient depth to allow the placing of the rear seat five inches higher than the front seat, giving greater student visibility. List prices range from \$1,390 with Lycoming 50-hp. engine or Franklin 60-hp. engine, to \$1,590, with Lycoming or Continental 65-hp. In between is the model powered by a Continental 50, priced at \$1,460.

York and Chicago is type 5, and type 4 between Chicago and Denver." Mr. Brown knows that any type above 4 is routine so he knows that he will arrive in Chicago about on schedule. Perhaps Mr. Brown has flown several times on type 4 weather, with little difficulty; chances are Mr. Brown will not hesitate to fly to Denver today because he is not afraid of type 4.

"But let's suppose Mr. Brown is held for several hours, or even canceled in Omaha. He has no grievance, because he knows when he made his reservation and again when he boarded the plane that there might be interruptions in service. How much better than for Mr. Brown to have called and been informed that the weather would be okay for his trip to Chicago but

that the weather was bad west and he might not be able to get there. Mr. Brown would at once ask what was causing the weather, just where it is bad and how bad it is, and Mr. Brown has a right to know. But who is going to give him the answer?" Dawson stated that if a clerk gives him the answer, he will probably decide not to fly.

Aside from the sales psychology, "typing" will advance the science of weather considerably, Dawson said. Meteorologists, dispatchers and flight officers will have to break weather down into its component parts, instead of "just looking at the outer side cover, as in the old days," he added.

### Prudden Named Manager of Ryan Aeronautics School

Ryan Aeronautical Co. has announced appointment of Earl D. Prudden as general manager of Ryan School of Aeronautics at San Diego, Cal. He also is vice-president and director of the parent company.

### WNAA Meets at San Diego

The 1940 convention of the Women's National Aeronautical Association was held at San Diego, Cal., May 6-9.

### 38 Rising Sun Grads Placed

Rising Sun School of Aeronautics, Philadelphia, has announced that 38 of its recent graduates have been placed in the aviation industry. The school has added to its equipment another Pratt & Whitney 1,050-hp. twin row Wasp; two 65-hp. Lycomings; one 40-hp. Continental and a 65-hp. Continental. In the aircraft department, four Taylorcraft fuselages, landing gears and tail assemblies were added.



**HERE THEY ARE TRAINED PROPERLY in AIRPLANE and ENGINE MECHANICS**  
to Successfully Fill the Needs of Aircraft Manufacturers and Air Lines

**A**IRPLANE and Engine Mechanics graduated from Missouri Aviation Institute are ready and able to step into active manufacturing and maintenance work. Our school, approved by the Civil Aeronautics Authority and the U. S. Army Air Service, is devoted wholly to intensive mechanics' training. It provides a reliable source of supply for manufacturers and operators who need well-trained men able to accept responsibility and to produce. This school was recently called on by one of America's largest aircraft manufacturers to supply 600 properly trained graduates.

Training at Missouri Aviation Institute is under the direction of U. S. Government Certified Instructors. Instruction is designed to duplicate as closely as possible actual industry working conditions. Training is on modern equipment and covers modern methods of construction, repair and service.

Airplane and Engine Mechanics graduated by this school are qualified to take examinations for C. A. A. Mechanics Certificates.

When you need properly trained men, communicate with the Registrar of the Missouri Aviation Institute. We will be glad to recommend graduates who are qualified to handle the type of position you have open.

## MISSOURI AVIATION INSTITUTE

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AIRPLANE AND ENGINE MECHANICS

MUNICIPAL AIRPORT  
KANSAS CITY, MISSOURI

INSPECTED AND APPROVED  
BY U. S. ARMY AIR SERVICE

## \$600,000,000 Expenditure Planned by Allies; Recent Orders Confirmed

Increased intensity of military operations in Europe placed the news spotlight more squarely on U. S. aircraft manufacturing activity during the last fortnight and revealed some of the orders which have been placed by the Anglo-French Purchasing Board in addition to plans for an expenditure by the Allied governments of a further \$600,000,000 for aircraft.

On May 17 it was estimated that the Allies had placed orders in the U. S. for \$650,000,000 worth of aircraft and associated equipment.

Official confirmation of orders for immediate construction of approximately \$50,000,000 in high-performance Douglas attack bombers was made on May 19 by Donald W. Douglas, president of Douglas Aircraft Co. Boeing Aircraft Co. will build one half of the order, under Douglas license. The other half will be built in the Santa Monica and El Segundo, Cal., plants of the Douglas organization.

The Douglas bombers ordered by the Allies are similar in many respects to the models now in production for the U. S. Army and for the French government. They will be twin-engine, high-wing, all-metal monoplanes powered by Wright engines and capable of speeds "never before attained by aircraft of similar size and striking power," the announcement said.

The late order signed with Douglas was thought to be a part of purchases amounting to \$200,000,000 announced recently by the Allies.

Consolidated Aircraft Corp. has admitted receipt of approximately \$20,000,000 in new Allied orders, which boosts the company's backlog to \$70,000,000. Presumably the ship involved is the B-24 four-engine bomber, named "Liberator" for export. Recently released for export, this craft is high-winged, 40,000 lbs., 300 mph., 4,800 hp. and capable of carrying a four-ton bomb load of some 3,000 miles. The U. S. Army has ordered 48 such craft at about \$11,000,000. Thus, the Allied order perhaps calls for some 100 ships.

Consolidated is in the midst of a \$2,000,000 expansion program, and will be ready for top speed production about July 15, when a 90% plant addition will be completed. At present, some 5,500 men are employed; by the end of 1940, this figure is expected to reach 10,000.

Lockheed Aircraft Corp. has an order for a large number of P-38 interceptor-pursuits from the Allies, probably 800, a reliable source said. This is part of the \$150,000,000 replacement announced in Washington in mid-May by Rene Plevien, French member of the purchasing board.

Although Lockheed officials would not comment on the order, which probably touches \$70,000,000, it was expected to show in the firm's backlog on June 1. No mention has been made of the 400 improved Hudson bombers originally slated to be included in the big Lockheed commitment. Employment at the Burbank factory May 6 was 6,988; at Vega Airplane Co., Lockheed subsidiary, 1,215.

North American Aviation Inc., mentioned by Plevien as negotiating for a contract to be announced soon, has a primary trainer (NA-35) in which the Allies are highly interested, possibly to the extent of more than 1,000 ships.

Plevien indicated that aircraft orders had gone to Glenn L. Martin Co., Bell Aircraft Corp. and Curtiss-Wright Corp., and that orders for engines had been placed with Allison Engineering Co., Pratt & Whitney Aircraft Div. and Wright Aeronautical Corp.

The Anglo-French Purchasing Commission on May 17 indicated that total

aircraft expenditures comprise orders for a total of approximately 4,000 planes of all types.

"A substantial number of the aircraft purchased under the old program have already been delivered and delivery of the balance is proceeding entirely according to schedule," the commission stated.

"Reports on combat experience of American aircraft, as amended to meet European requirements, and already delivered, state that they have proved highly satisfactory and it is confidently anticipated that the latest models will prove increasingly superior," the Allied announcement said.

### Air Corps Shift

Orders have been issued by the War Dept. moving the base headquarters and the 19th Air Base Squadron, consisting of four officers and 250 enlisted men, from Hamilton Field, Cal., to McChord Field, Wash., for permanent station. The squadron was organized at the former field last February and has been in training there since. Construction at McChord Field has now progressed sufficiently to allow movement of the unit to its new home station, the department said.

### Irish Line Buys DC-3

Although airline operations in many sections of Europe are suspended or severely curtailed, some routes are expanding and inaugurating new transport equipment as was emphasized when officials of Douglas Aircraft Co. announced on May 16 that Aer Lingus Teoranta (Irish Air Lines) has ordered another DC-3 commercial transport scheduled for delivery in September. The line's first DC-3 was delivered last March. ALT's DC-3's are fitted with Wright Cyclones of 1,100 hp. and Hamilton Standard full-feathering propellers.

## Balloon Barrage Wards Off Planes Over Movie Sets

A balloon barrage, peacetime version of the noted London air raid defense strategy, has been selected by Hollywood motion picture producers to lessen the spoils of movie "takes" caused by the noise of commercial aircraft flying in the vicinity of outdoor sound stages. Annually, it is reported, the film industry has been losing between \$250,000 and \$500,000 when the rhythmic roar of plane engines was recorded on sensitive sound tracks, necessitating costly duplication of effort.

First of the 12-ft. balloons manufactured by Goodyear Tire & Rubber Co., Akron, O., have been delivered to M-G-M, Columbia, Universal and 20th Century-Fox. Unlike the gray fish-shaped military variety, these balloons are spherical, painted a vivid orange, and equipped with nearly 100 highly polished discs secured to the surface at regular intervals to reflect sunlight by day and searchlight rays by night.

The balloon barrage is expected to "clear the sky" within three miles of a studio or outdoor location. Airlines serving Los Angeles have endorsed the plan which was drafted by the film producers in cooperation with the aviation committee of L. A. Chamber of Commerce, headed by Robert E. Gross, Lockheed Aircraft Corp. president.

### LA Airport Body Named

Mayor Fletcher Bowron of Los Angeles has nominated the following members of the new LA municipal airport commission: Robert E. Gross, president of Lockheed Aircraft Corp. and chairman of the chamber of commerce aviation committee, for a six-year term; Wayne H. Fisher for four years, and Zack J. Farmer for two years.

## Bennett Production on PT Starts Soon

Bennett Aircraft Corp., Ft. Worth, Tex., has announced completion of its plant and production to start soon on a prototype of the Bennett Executive twin-engine transport with plans for a military conversion to a light bomber and a light military bi-motored trainer.

"Construction of these planes will be of bakelite-plywood," the announcement said. "The plant has some 40,000 sq. ft. of floor space and is equipped with its own landing field, one runway is a mile long while two others are 3,514 ft. and 2,690 ft. in length."

Company is capitalized for \$350,000 and it is anticipated that this will be increased in the near future. Officials and directors are John Kennedy, president; F. W. Bennett, vice-president; D. L. Johnson, vice-president; Norman Nicholson, secretary-treasurer; and directors: John Kennedy, F. W. Bennett, D. L. Johnson, C. A. Lupton, W. P. Bomar, R. E. Harding Jr., R. L. Bowen, W. K. Stripling Jr. and Harry E. Brants.

### Spartan School Adds 2

Max Clausewitz and John A. Matthews are new additions to the staff of Spartan School of Aeronautics at Tulsa, Okla. Clausewitz has been employed by the Army Air Corps training detachment at the school as assistant parachute rigger, and Matthews has been assigned to Spartan's engine shop as ground school instructor.

## Markets

(Continued from page 1)

emissaries had been studying U. S. commercial transports for future purchases.

Belgium had ordered some U. S. military airplanes and other equipment, although Belgian air transport was using Italian and German planes for commercial use.

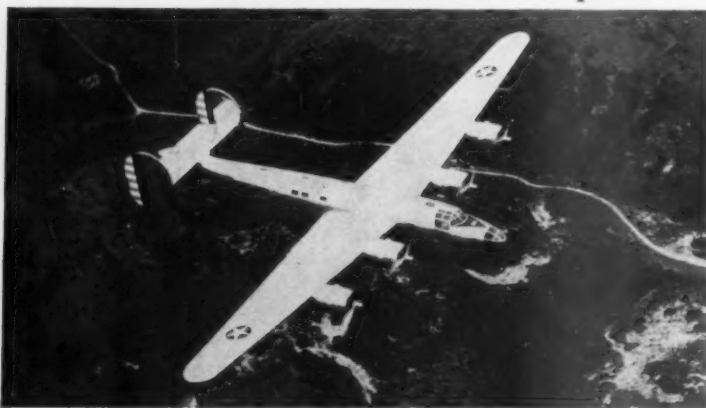
This country's most important foreign buyer of commercial aircraft—the Netherlands—is considered a great loss. Royal Dutch Airlines, KLM, flying long routes to the Far East and planning a trans-Atlantic route to its Dutch West Indies, had used considerable quantities of Douglas and Lockheed transports and provided international advertising for U. S. aircraft products. What will become of KLM is very much in question at the moment, but with the home country occupied by Germany the outlook is anything but bright. KLM would most likely have continued to be a major user of American airplanes and engines.

Sweden, while still nominally independent, will probably not be buying much from this country for some time assuming she may not be taken over by Germany or Russia. Being in the midst of German influence, she probably will be forced to buy aircraft and equipment from that country. Sweden was using some Douglas transports and considering buying more.

Denmark also was a steady little purchaser and had she remained independent, probably would have bought American planes for transport use. A prominent Danish transport official recently had been in this country looking over our equipment and Denmark was to be one of four Scandinavian countries to operate a joint trans-Atlantic air service, using American planes.

While the elimination of these markets will not be felt particularly in the near future, their loss will mean much in the years to come, although they may not be completely lost if the trend of the war should change.

## Consair's Bomber Released for Export



Above is one of the first flight pictures of the new Consolidated model 32 four-engine land bomber which is undergoing tests at San Diego, Cal. Designated by the Army as the XB-24, the plane marks Consolidated Aircraft Corp.'s re-entry into the landplane manufacturing field. The bomber has been released for export by the State Dept. and has been tagged the "Liberator."

Model 32 is a full cantilever, all-metal plane, powered by four Pratt & Whitney 14-cylinder twin-row aircooled engines rated at 1,200 hp. each. Propellers are Hamilton Standards, 12 feet in diameter. Fowler flaps extend inboard of the ailerons in the wing of high aspect ratio, with engine nacelles mounted flush with the upper surface of the center section.

Approximate gross weight of the plane is 40,000 lbs.; wing span, 110 ft.;

length of fuselage, 64 ft.; over-all height, 19 feet. Tactical requirements are for a crew of from six to nine.

Control surfaces are fabric covered and fully counterweighted. A full cantilever horizontal stabilizer has twin fins and rudders mounted at the tips. All-metal stressed skin fuselage is equipped with hatches and windows in the nose, tail, turtledeck, back and bottom. Landing gear is of the tricycle type with single wheel forward which retracts into the fuselage. Main landing wheels retract into wing wells.

While performance figures are strictly confidential, an official release states: "This airplane, from preliminary examinations, gives evidence of living up to the advancements in aerodynamic and performance characteristics predicted. These include a speed of over 300 mph., a range of approximately 3,000 miles and a bomb carrying capacity of approximately four tons."



# THE *Lockheed* LOG



## *Speaking of Lockheeds*

**TALK SHOP WITH A PILOT!** Ask him why he prefers a Lockheed flight, and here's what you'll hear. First, a Lockheed seems to be part work horse and part race horse. It's built to withstand the stress and strain of all kinds of flying. It has that dependability which comes only from the infinite care and research that go into the development of Lockheed methods.

Then...a pilot will tell you, this same airplane responds to controls with the nimble ease of a small airplane. Pilots prefer Lockheeds because they know airplanes, because they know that many Lockheed records were made in standard models, and because a Lockheed flight is exhilarating, easier and faster. Lockheed Aircraft Corporation, Burbank, California.

LOOK TO *Lockheed* FOR LEADERSHIP



*Lockheed*  
LUXURY



**REMEMBER, we call it the**



#### TALK SHOP WITH A REGULAR AIRLINE TRAVELER

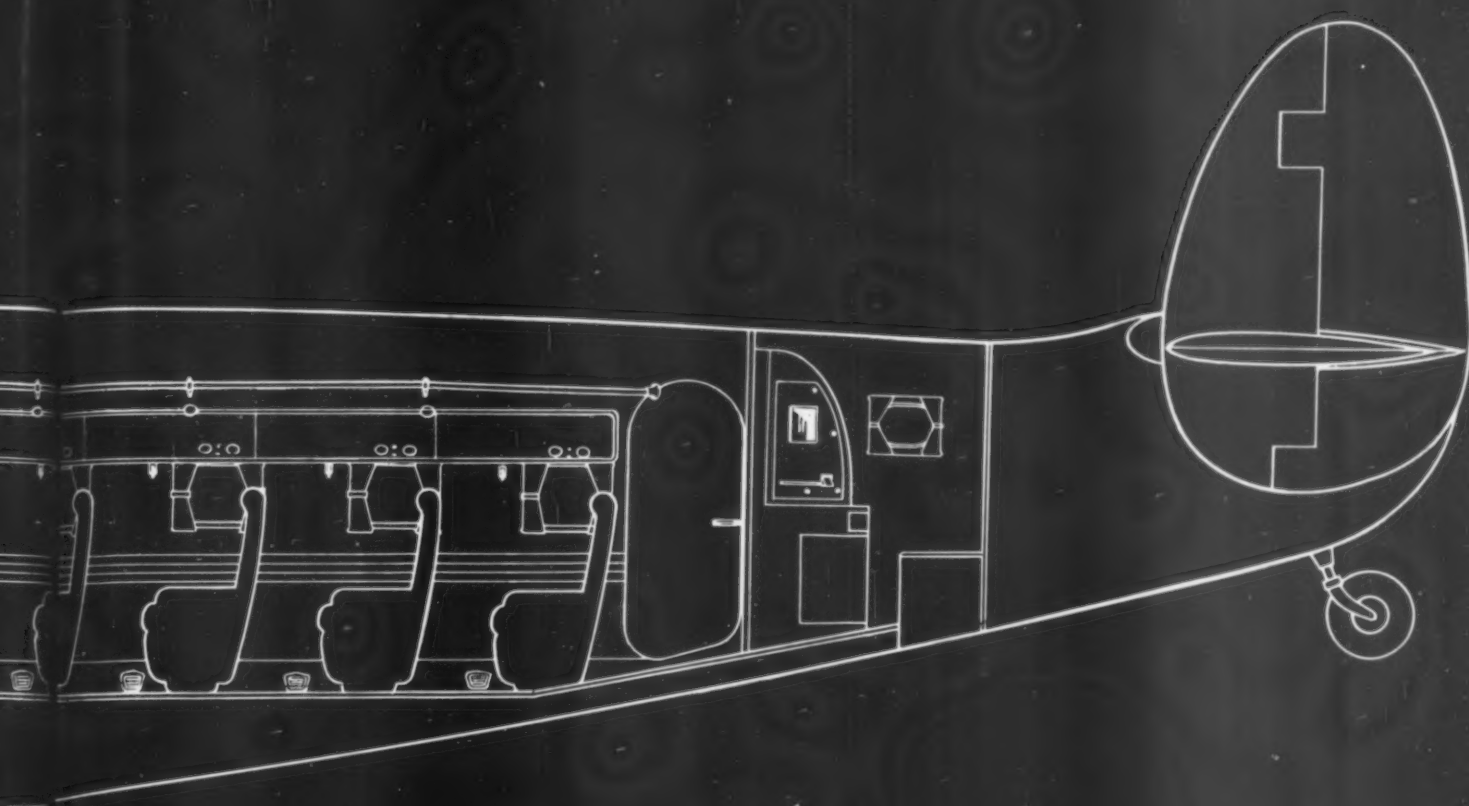
When he's flown in the new Lode-star he'll give you enthusiastic reasons why he prefers this airplane to other airline transports.

First—it gives him SPACE...ample space to himself. For 14 passengers there are a full 747 cubic feet of cabin volume. Then, *every* seat has a window all to itself, PLUS aisle space for a long stretch to the side. A twist of the wrist will adjust the

seat from a 5° to a 40° reclining position, and he can lounge to either side without rubbing shoulders with another passenger.

He *experiences* the advantages of ingenious planning which you *see* in the cut away blueprint above. There's head room...leg room...arm room for tall men, and deep-cushioned comfort for the most fastidious woman.

LOCKHEED AIRCRAFT CORPORATION • BURBANK, CALIFORNIA



## LUXURY LODESTAR...Here's why..

### TALK SHOP WITH AN AIRLINE OPERATOR

He prefers Lodestars for dollars and good sense reasons because he knows that every Lockheed has been designed with HIS operating problems, foremost in mind.

Other Lockheeds have won his loyalty over a period of years because they were Trojans he could operate *at a profit*.

Now comes the Lodestar, which sacrifices not one famous Lockheed

performance superiority, and yet offers the real lounge comforts that passengers have come to demand. It carries fourteen paying travelers in luxury, which is the equal of any

transport. Yet it's a sound, economic, airline investment because it attracts more passengers and more revenue. It's a typical Lockheed—another reason operators say—

*Model for Model*

**LOCKHEEDS** carry greater pay loads  
at higher speeds ... at lower costs!

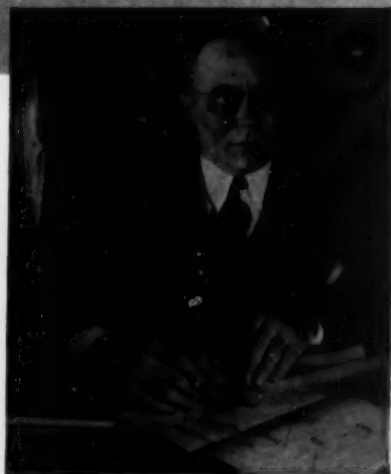
LOG OF

# Lockheed

OWNERS



*Pilot Francis McDonald, under the wing of the Byrd-Frost Lockheed.*



## TALK SHOP WITH A PRIVATE OWNER

D. H. Byrd, president of Byrd-Frost Inc., Texas drilling company, is a typical Lockheed owner. He'll tell you his airplane is luxurious, but not a luxury... rather, he considers it a business necessity.

For busy executives like Mr. Byrd, Lockheeds have much to offer. Their **SPEED** enables owners to make their own time tables... and arrive hours ahead of regular schedules. Their **COMFORT** brings the traveler to his destination fresh and relaxed. And their **QUIET** transforms each airplane into a commodious *office in the sky*.

LOOK TO *Lockheed* FOR LEADERSHIP

Printed in U.S.A.

XUM



## Capital Notes

PRESIDENT ROOSEVELT HAS NOT ONLY ASKED for 50,000 military airplanes for the nation's defense but asks for a production capacity of 50,000 airplanes per year. There was general expectation that he would ask for a large increase in planes, but few, if any, thought he would suddenly leap to such a high figure. He was, of course "talking to the galleries" since anything like 50,000 planes a year is not in sight in the near future. It's a two-year program at best, and probably three.

But as far as appropriations are concerned, the President will get the money he asked for. Political differences faded into the background except on minor points. War news from abroad was all that was necessary to bring about unanimous approval of the national defense objectives.

Industry leaders immediately assured the president and Congress of their cooperation and said the industry can do the job, which is only proper. The President's message, however, had an abundance of reaction privately and those who have been arguing for national defense preparations for the past seven years are now in a position to turn around and say, "Too late." Notable was Capt. Eddie V. Rickenbacker's comments that the President waited five years too long if he wants 50,000 planes for 1940 or 1941. It can't be done. General Hugh S. Johnson, who is in a position to know, pointed out that the President had turned a deaf ear to pleas for defense when there was time. "He is late," the astute General said. "He may be too late. Nobody can tell him anything, nothing could move him from his stubborn, ill-informed and inept inaction but a world-shaking catastrophe."

As this is written leaders of the industry were preparing to meet in Washington with government officials to hear details of the program, or whatever details are available, and to start solving some of the many tangled problems which stand in the way of unlimited expansion of production. If the Assistant Secretary of War, Louis Johnson, is to be taken at his word, the government is not only willing, but anxious, that private industry absorb the whole program.

To this end the government is ready to augment private capital investment with Federal loans to finance plant expansions. It is prepared to negotiate closing agreements whereby a portion of the costs of expansion for defense may be determined in advance for deduction in future tax returns. Other aids to industry will be realized.

Evidently the government is planning to step into plant expansion openly. As much as \$300,000,000 may be thrown into the erection of government-built factories and it is no secret that more than one Senator was promised an aircraft factory for his state if he voted "right" on the CAA reorganization plan. Operated by private interests on a fixed-fee basis, these plants would be withdrawn from active use when the crisis passes, according to official word, and held as reserve units to avoid competition with private enterprise.

There is no escaping the uneasiness within the industry toward many phases of this suddenly-announced plan that should have been launched years ago on a national basis.

SUBCONTRACTING AND LABOR PROBLEMS must be solved as large-scale production gets underway. The administration is stressing the advantages of subcontracting in spreading orders, spreading employment and speeding operations. This intensifies the question of interpretation and application of Walsh-Healy and Vinson-Trammell laws. Relaxation of these and of Wage-Hour requirements in certain phases of the national defense program is strongly urged in many quarters. Potential shortages in the skilled labor market further complicates the picture.

While labor has remained relatively quiet, both national organizations are expected to exert full force against any move to lower the bars. On the other hand, businessmen who oppose these laws as restraints on normal expansion, see in the defense program a new argument for their repeal: if it is so greatly in the interest of the Government to liberalize labor regulations in this instance, why is it not to the public good to liberalize them for consumer production?

CONGRESS IS MOVING SWIFTLY to make funds immediately available to carry out all the President's recommendations already authorized by law. The Senate Appropriations Committee added to the War Department supply bill previously passed by the House additional money for such items as training planes and superbombers. Similarly, the Committee recalled the Navy bill from the Senate floor to tack on extra money. Both of these bills were revised and sped toward enactment early in the week.

The House Military Affairs Committee, however, got off to a poor start. This Congressional group, which watches over military policy, showed signs of jealous irritation when War Department officials asked for wide-sweeping suspensions of various limitations, particularly that setting Army aircraft at 6,000. There was no trace of reluctance to authorize a bigger Air Corps. But the Committee immediately resented the suggestion that it be relieved of any deciding voice in determining the appropriate number.

The first day the hearings were thrown into utter confusion. Several members insisted on making statements for the record, or pressed for minute detail on projects affecting their own districts. Chairman May wielded a heavy gavel and eventually dismissed the committee.

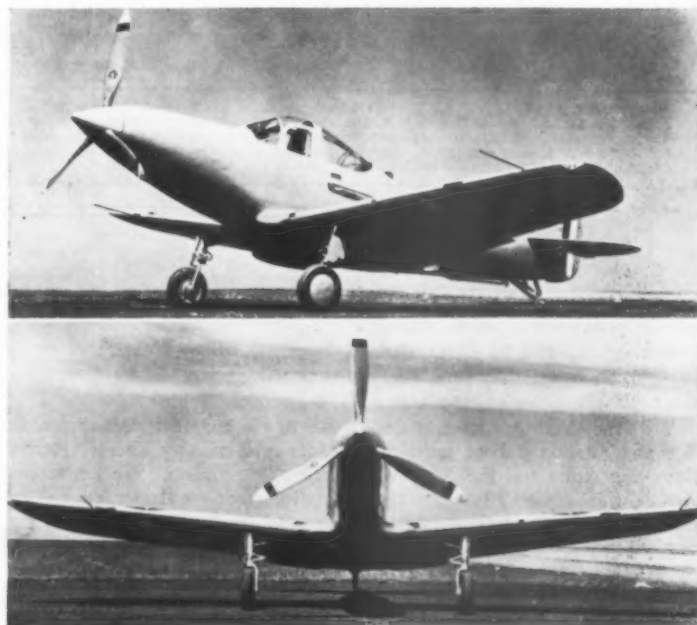
PILOT TRAINING for thousands of young military pilots will be swinging into operation during the summer in nine new camps under Army supervision. Col. Frank Knox, Chicago publisher and Republican candidate for vice-president in 1936, will direct the program at the President's invitation. The President evidently forgot to tell the Air Corps about this new plan because the Air Corps denied knowing anything about it. Where the instructors are coming from is only one of the major problems.

THE AIRPORT EXPANSION BILL is now being dusted off for consideration as a possible necessary adjunct to the general defense scheme. First introduced last year by Senator Pat McCarran, it was revised at this session but lay smothering in a committee file cabinet.

Senator Bennett Clark, who has become a good friend of aviation, dug it out early in the week and called on his civil aviation subcommittee to look it over.

CAA REORGANIZATION becomes effective June 11. There are those in Washington who believe the President didn't realize in advance what all the manipulating of reorganization orders was about and the subsequent developments aimed to appease friends of independence were certainly ill-timed. A thorough reading of the Congressional Record and the hearings brings one to the conclusion that perhaps there was a definite intention to scuttle the Civil Aeronautics Authority from the very start. Causing petty dissensions and feuds is one of the best means of destroying an organization. But there is great disposition to forget all about the reorganization fight and give the Department of Commerce a chance to see what it can do. It will certainly be carefully watched.

## A Bell Type for the Navy



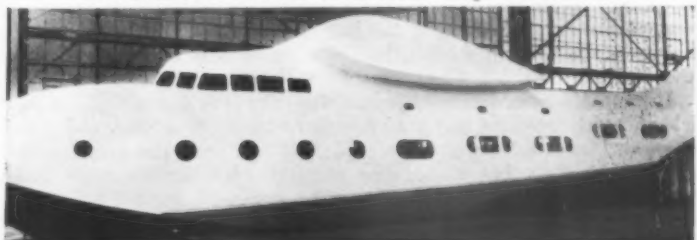
Two views of the new experimental single-seater fighting plane built for the U. S. Navy by Bell Aircraft Corp. and delivered to Buffalo Municipal Airport for preliminary test flights by the manufacturers. Similar in design to the Army Air Corps Bell Airacobra, the new Navy plane is powered by an Allison 12-cylinder engine of more than 1,000 hp. On completion of tests the craft will be turned over to the Navy for its own official test flights. The plane, designated the XF1-1, is all metal and weighs approximately 6,500 lbs. Wing span is 35 ft. and length is 29 ft. 9 in. The ship is designed for aircraft carrier operation.

**Air Corps Examines Spitfire**  
Col. O. F. Echols, assistant chief of the Army Air Corps' materiel division, accompanied by two test pilots, Capt. G. E. Price and P. E. Shanahan, flew in an Army transport to Ottawa, Ont., on May 15, accompanied by a group of engineers to inspect the British super-marine Spitfire. Army pilots flew the Spitfire in order to compare its characteristics, performance, speed and general utility as a single-seat fighter, with latest models in the U. S. Army.

### Student Dropped from CPTP

A student in the CAA civilian pilot training program was dropped recently when it was discovered that he had attempted two loops on his cross-country flight. He confessed when his instructor discovered considerable oil on the plane's cowling after the flight. "The controlled course does not provide for acrobatic training, and the aircraft used in the course is not designed for that purpose," the CAA stated. "Showmanship of this kind will not be tolerated."

## Production Starts on American Export's Liners



This mock-up of a new long range airliner will be followed by a prototype and two sister ships in the plant of Vought-Sikorsky Aircraft Div. of United Aircraft Corp. at Stratford, Conn., enabling American Export Airlines to give the U. S. its first non-stop trans-Atlantic air service. The new flying boat will have a cruising range of 5,500 miles, carry 16 passengers in luxurious berths, in addition

to a substantial load of mail and express. A corps of engineers has practically completed detailed drawings covering the changes necessary to transform the Navy's flying dreadnaught to the more peaceful use of a trans-Atlantic passenger carrier.

Examiner Edward Leasure of the CAA recently recommended that the Authority grant a certificate to American Export to operate two round trips weekly to Portugal, Spain and Italy.

# AMERICAN AVIATION

The Independent Voice of American Aeronautics

Published the 1st and 15th of each month

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Editorial and business office, Earle Bldg., Washington, D. C. Published by American Aviation Associates, Inc.; Wayne W. Parrish, president; Albert H. Stackpole, vice-president; Edward J. Stackpole, Jr., secretary-treasurer, 104 Telegraph Bldg., Harrisburg, Pa.

Address all correspondence to AMERICAN AVIATION, Earle Bldg., Washington, D. C.

ALBERT H. STACKPOLE.....Assoc. Editor  
ROBERT H. WOOD.....Asst. Editor-Daily  
DAVID SHAW.....Asst. Editor-Directory

ADVERTISING REPRESENTATIVE  
W. F. Coleman  
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Subscription rates — \$3.00 per year, 15¢ per copy; Canada and Pan-American countries — \$3.50; all other foreign—\$4.00.

Entered as second-class matter at the Post Office at Washington, D. C., with additional entry at Harrisburg, Pa.

AMERICAN AVIATION DAILY: Published six days each week except holidays, dispatched by air mail. A confidential news letter covering daily developments in aviation and the national capital. \$15 per month, \$85 for six months, \$170 per year. Service Bureau available to all subscribers. Special telephone District 1861. Group company rates on request.

## Fortnightly Review

(Continued from page 1)

been overburdened by administrative details, it will not have this excuse for lack of action after June 10. For it is being relieved of almost all of these details.

Will the Civil Aeronautics Board rise to the national defense needs? We aren't talking about military airplanes and military aircraft production—the Army and the Navy will tackle that problem. We are talking about the most vital adjunct to the national defense—a strong, expanding, efficient air transportation system.

For twenty-one months the Civil Aeronautics Authority has been uncommonly slow in disposing of matters which should be considered routine in the long-range view. It has pending before it today important cases which should have been disposed of many months ago. These are no days to be debating eternally on fine legalistic points, of haggling over fractions of cents for air mail rates, of being Old Womanish over academic problems which cease to exist in tomorrow's news. What is needed today is far-seeing action—action attuned to tomorrow's national needs.

Transports? That is the need today. Germany is teaching the world many new lessons in aviation and not the least important is the transportation of troops and equipment by air. And the backlog of any such military use of air transports is a commercial air transport system manned by men with operating experience, men who know how to fly in all kinds of weather and all kinds of conditions, men who keep in active training.

In this great United States of America we have but a handful of transport airplanes. Three hundred airplanes hardly constitute a vital transportation system in a nation of this size.

It is clear in the record of the Civil Aeronautics Authority of the past twenty-one months that the thinking behind its policies has been extremely narrow. It is clear that the Authority, to date, has not risen to genuine leadership in building up a vast and important air transport system as a backlog of national defense. There have been a lot of pretty words, a lot of sincere conscientious worrying about a sound historical growth of a new transport industry, but the history of today is not following the history books used in schools, but is being written in words of action and foresight on the news tickers.

It probably would have been mighty nice for the Dutch to have labored with integrity and academic earnestness for a year and a half over whether K.L.M. was to be paid 33.42687 cents per mile for mail or 34.5298 cents, but can anyone say just what difference it actually would have made. Tragedy stalks in the wake of hesitancy, procrastination, petty legalistics. And of all places where the lawyers should stop taking up everybody else's time, it's aviation today.

If airline pilots are to be adequate in numbers, the CAB must hasten air mail rate revisions to make it possible for the air transport industry to build up a reserve, to engage in proper training. Of what use is an intricate and theoretically-balanced air mail rate formula if, in an emergency, the whole formula is junked?

An expanding air transport system is the most important single adjunct to an aerial national defense. We need 1,000 transports in three years. We need expert technical advice on traffic control. The Civil Aero-

nautics Authority has not had to look over the ocean to find that history moves fast these days. It found that even its own foundations can be changed within sixty days. Let us hope that within the next sixty days the Civil Aeronautics Board shows that it can keep pace with changing conditions. If it doesn't we will have to lay all of the cards on the table and call a spade a spade.

Overnight domestic air transportation has become a war industry. Aircraft for fast transportation and communication are a part of our national defense program.

The biggest reason why commercial transport operators should develop this phase of war industry is because they have the all-important experience in traffic control on our airways. Our best brains today should be devoted to traffic control, and those best brains are NOT in the Army or the CAA.

If the new Civil Aeronautics Board is to rise to the situation today, it should set as a three-year goal the increase of air transports in the United States from a mere 300 to 1,000—with the bulk of these being four-engined planes. And if the Civil Aeronautics Board is on its toes, it will create a committee of airline experts to organize itself into an advisory committee on traffic control to anticipate the rapidly expanding use of our airways. If thousands of new military planes are to be built, the traffic control problem becomes most important.

We recommend for such an advisory committee men who know what they are talking about—Paul Richter or Larry Fritz of TWA, shortly Schroeder of United, Hugh Smith of American, Eddie Rickenbacker or Les Arnold of Eastern, George Gardner of Northwest and Bruce Braun of Chicago and Southern. These are the men the CAB should call on to solve traffic control.

## Political Buffoonery

IF WE hadn't seen it, we wouldn't have believed it.

A day or so after the President leaped from seven years of inactivity on national defense into a dream world of 50,000 planes overnight, the War Department dramatically sent telegrams to all leading aircraft manufacturers to attend a conference in Washington at 10 am., Monday, May 20, at which time the great program would be explained and the cooperation of the industry sought.

A War Department telegram is not something to throw in the wastebasket. So on Sunday the manufacturers arrived from far and near. On Monday morning they prepared to meet with the government to hear the details. At 9:30 am. there was still no place scheduled for the meeting, but finally word filtered through that the manufacturers were to meet in the Treasury Department. The room proved to be so small that half the manufacturers couldn't even get in.

Next came the grand entrance of Secretary of the Treasury Henry Morgenthau, whose presence had not been expected, and Assistant Secretary of War Louis Johnson. Next came the photographers and the newsreels with many gracious words being spoken for the benefit of movie patrons. Mr. Morgenthau then excused himself. After extending a greeting, Col. Johnson likewise bowed out. Remaining was Gen. George Brett, chief of the Army Air Corps materiel division. Poor General Brett! First of all he had to confess that the program wasn't prepared, that it would be at least 10 days in the making. Next he had to confess that the Chief of the U. S. Air Corps likewise didn't know what the program was to be. All he could say was what already had been said to the tune of hundreds of columns of newspaper space—that the government wanted to do something, that it depended on private industry, that if it built factories it wouldn't operate them. Shortly the meeting broke up. Puzzled, bewildered, disgusted, the manufacturers filed out of the Treasury Department.

What's it all about? Can the country in these days afford such a fiasco as this? Every manufacturer in the United States is working night and day. He hasn't time to go out on wild goose chases. The government KNOWS the industry will cooperate—and cooperate to the top limit. The industry has never yet let the country down but as much can't be said for a government that has dilly-dallied, chiseled the manufacturers for below-cost production, and left the industry to shift for itself during the past decade. Was it merely a big political gesture to call in the manufacturers and have some newsreels made? Was it cricket for the cabinet officers to show to the industry and the public that the men in the Air Corps who know what they are talking about haven't been in on the plans from the start? This is no time to make buffoons out of an industry that is willing and able to do the job for national defense. Let's cut out the circus stuff and get busy on a program that should have been started five years ago, and let experienced men who know their business have the say so about it.



## Mr. Tom Hardin

IF THE President is sincerely interested in seeing a constructive and orderly development of civil aeronautics in this country, he would do well to appoint Thomas O. Hardin to the fifth place on the Civil Aeronautics Board when Chairman Robert H. Hinckley becomes Assistant Secretary of Commerce in charge of aeronautics. Many wounds from the bitter reorganization fight would be healed by such a gesture. There is no better qualified man available in the nation today to fill this position. The needs of the hour demand a man of technical ability, a man of integrity and vision, a man whose entire life has been spent in aviation. Mr. Hardin's appointment would tend to nullify the destructive factors and motivations behind the reorganization and would provide a very much needed technical expert on the Board. We hope the President will be big enough to overlook the sincere and justified opposition to the reorganization plan and name Tom Hardin to the fifth place.

And incidentally, isn't it time that more experienced aviation men be called to positions of leadership in the government? The so-called government career man, or the professional office-seeker, never has had and never will have the proper sense of responsibility, understanding and leadership which aviation in Washington needs today. Let's have more positions of responsibility filled by men who have pioneered, who have struggled with a struggling industry, men who have experienced the headaches and the heartaches of growing with private enterprise and who haven't had the security of the public payroll all their lives.

## Abuse of Public Trust

IT MAY be harsh to say so, but we believe the examiner's report issued May 21 denying the application for a certificate of public convenience and necessity to All American Aviation Inc., for pick-up feeder routes in West Virginia and Pennsylvania is a miscarriage of justice and an abuse of the responsibility of a public agency toward the public interest.

All American Aviation has been forced to suspend operations because of a serio-comic passing of the old-fashioned buck by two government agencies. Awarded a one year experimental contract by the Post Office Department, All American was given to understand that it should apply to the Civil Aeronautics Authority for a permanent certificate. The Post Office Department decided it did not have jurisdiction to continue the route, that the CAA was the agency in charge. And now a CAA examiner passes the ball back again by saying that the CAA is without jurisdiction insofar as the transportation of mail is concerned. It should be stated in all justice that the examiner is not at fault—the fault lies with government agencies supposed to act in the public interest.

What a farce in these days when the development of aviation should be of primary consideration. What a farce that a small company should have to spend thousands and thousands of dollars in a hearing that dragged on and on through wearisome and needless days with an abortive result. What price private enterprise and private initiative!

Is not there SOME leadership somewhere in aviation's governmental regulatory agency which can grasp hold of pressing problems such as this and come to a conclusion without forcing companies to spend large sums for a lost cause? Is there not some premium available for those who are willing to risk capital in these days for a worthy enterprise, an enterprise benefiting scores of communities who want air mail service? The hemming and hawing, the procrastination in such matters as this is not only ludicrous but almost a betrayal of public trust.

In these days, when pilots and airplanes should be in active operation everywhere in this nation, a company that has spent large sums of money in a worthwhile enterprise, is forced to suspend while two agencies pass the buck. The CAA has missed the boat on this case as it has on others of like nature. No matter what it now decides, All American has been forced to lay up its planes, disrupt operating procedures, lay off personnel. It is indeed a travesty.

## Bob Latt Texas Co. Pilot

### Dies in South Carolina Crash

Marion C. "Bob" Latt, 39, well known pilot for the Texas Co., who had been with the company's aviation department for several years, was killed on May 10 at Blacksburg, S. C., when the Beechcraft which he was flying from Miami, Fla., to Roosevelt Field, went to pieces.

Pending further investigation, CAA and Air Safety Board officials believe he was coming down through an overcast and probably did not realize the plane was picking up speed. Disintegration of the plane was believed to have occurred as a result of terrific speed.

Latt, a Quiet Birdman, had been a pilot for 23 years.

## Kelso Instructs for Boeing

Lester G. Kelso has joined the staff of Boeing School of Aeronautics, Oakland, Cal., as an instructor in the engineering department.

## AA, United Mass Flight

American Airlines and United Air Lines recently sold tickets for the largest mass flight in commercial aviation history when Willys Illinois Co., sponsored the Willys Skyroad Parade of dealers and customers from Chicago to the Willys auto plant in Toledo. The cooperating airlines sold 200 tickets for the flight.

## Pro, Con and Otherwise

### AOPA Service

May 17, 1940

To the Editor:

May I refer you with pained surprise to the last editorial on Page 22 of AMERICAN AVIATION for May 15, 1940. Not only have you been in my opinion aviation's finest news gathering organization and, therefore, subject to the charge of being aware of everything that goes on including the activities of the Aircraft Owners and Pilots Association, but also your associate editor has been an early and continuous sponsor of AOPA.

If your friend who had decided to organize a flying club had requested AOPA for information on flying clubs, he would have been provided not with one but with several plans of clubs and each of these plans would have been relevant to his problem, provided that he made it known. For your further information AOPA has disseminated literally hundreds of flying club plans and I am telling you fact, not fancy, because copies of all letters forwarding this type of material pursuant to request go over my desk as a member of the executive committee. I might add that this activity has been one of the most thrilling in which we are engaged because you and I know that only through stimulating outsiders to get

into flying is there any future for the industry.

I also want to suggest that there has been a very interesting development in connection with the work of the AOPA. We originally felt that we were going to be called upon to spend most of our time in civic work, that is in connection with legislation, regulations, etc. We find that our average member is much more interested in service, in precisely the problems presented in how to form a flying club, how to take care of troublesome tail skid, how to build a cheap hangar, how to stake out a plane and where to land in remote sections. It has been a great satisfaction to set up service headquarters to answer these problems and as our files gradually accumulate more data, it is amazing the amount of good the organization is doing.

I do wish that you would give us space as is appropriate to our work (and I don't ask special favors in this respect) and in particular tell that friend of yours and your readers that Aircraft Owners and Pilots Association will give them all the flying club plans they want, which they can get by writing either to our Chicago offices in the Transportation Bldg., or our New York office, Room 808, 415 Lexington Ave., New York City.

ALFRED L. WOLF.

(Reporters are often mind-readers, rarely clairvoyants. Repeated requests to AOPA for information on its activities have brought no response. Congratulations to AOPA for its accomplishments, shame for keeping them a secret.—Ed.)

## Aero Bookshelf

TRANSPORTATION. Pamphlet published by U. S. Government Printing Office, Washington, D. C. One map; 8pp.

This little pamphlet has nothing to do with aviation, as such, but may be valuable for libraries of air transport companies. It contains information concerning land grants for roads, canals, river improvements and railroads and has been compiled by the General Land Office of the U. S. Department of the Interior. It is known as Information Bulletin, 1939 Series, No. 5, and has just come off the press. Tables show the enormous land grants to railroads, listing each grant and the date issued. A map shows the vast extent of these grants as compared to total land area of the country. To critics who state that air transportation has received government subsidies, this pamphlet is one effective answer that air transport has received almost nothing by comparison. W. W. P.

(see Authority) and has long been interested in international air transport. Two summers ago he flew on 20 foreign airlines and came into intimate contact with operations and officials in many lands. His lecture should be on the bookshelf of every air transport official.

Comparative tables are among the most interesting features of the lecture, showing that U. S. air transport offers more frequency of schedules, lower fares, more safety, and hauls passengers greater distances, but that European air transport developed a vast network of lines against difficulties of national boundaries and carried much more mail and express. As the author has pointed out, U. S. air transport is essentially a domestic transportation system; in Europe air transport has been primarily an international system. The tables on fares, types and seating capacities of planes, distances covered, revenues, mail, and such items, are of intense interest. A brief era of European air transport has now closed and Mr. Van Zandt has provided an able history of it. W. W. P.

## Obituary

2d LT. WILLIAM F. GILBERT JR., 28, Army Air Corps, who had been assigned to the 35th Pursuit Squadron, 8th Pursuit Group, at Langley Field, Va., died recently near Virginia Beach, Va. It was reported by the War Dept. in Washington on May 6.

ELWOOD H. HERBIG, 49, executive engineer of Republic Aviation Corp. and an early associate of Orville Wright, died at his home in Great Neck, N. Y., on May 4, after an extended illness. He had been with the Republic organization since 1939 as production manager and later as executive head of the engineering department. Mr. Herbig became associated with the old Dayton-Wright Co. in the pre-war era. He worked closely with Orville Wright, and continued with the second Dayton-Wright Co. for many years as a chief executive. He was general manager of Chance Vought Corp. at Long Island City, N. Y., and Bridgeport, Conn., until 1931.

EUROPEAN AIR TRANSPORT ON THE EVE OF WAR—1939. James Jackson Cabot Lecture by J. Parker Van Zandt. Norwich University, Northfield, Vt.; 72 pp.; \$0.25.

Even a disastrous World War II cannot dim the usefulness of this fascinating study of European air transportation. It can be highly recommended as a source book and as a guide to the first great period of air transport development in Europe. Luckily this study was completed before the disruption of air services abroad, for regardless of how much air service expands after the fighting is over, there are bound to be vast changes among the operators. History already has moved a number of great foreign air services into oblivion.

Mr. Van Zandt is an economic consultant for the Civil Aeronautics Board



## AIR CARRIER RECORD

(C. A. A. Applications, Hearings, Dockets)

### Eastern Appeals CAA Order

Eastern Air Lines on May 20 asked the U. S. Court of Appeals to review the CAA decision granting National Airlines a Daytona Beach-Jacksonville extension. Complete story on page 32.

### TWA Asks Atlantic City Stop

TWA on May 20 filed formal application for a stop at Atlantic City, N. J., on AM2, New York-Los Angeles.

### PAA Seeks Certificate Transfer

Pan American Airways has filed application with the CAA asking that the certificate which is to be issued to Pan American Airways Inc., for a mail-passenger-property route between Cristobal, C. Z., and Turbo, Columbia, be transferred to Uraba, Medellin & Central Airways, a PAA subsidiary. An examiner's report has recommended issuance of such a "grandfather" certificate to PAA Inc. The company points out that UMCA is now engaged in the transportation of mail, passengers and property between Cristobal and Turbo as part of its operation from Cristobal to Medellin via Balboa and Turbo.

### Oral Argument on United Stops

CAA members Harlee Branch, Edward P. Warner, Oswald Ryan and G. Grant Mason Jr., heard oral argument May 9 on the application of United Air Lines for stops at Red Bluff, Stockton, Marysville, Merced, Modesto and Chico on AM11, San Diego-Seattle. A proposed report issued several weeks ago by CAA Examiner C. Edward Leasure recommended that the company be allowed to make the Red Bluff stop, but advised against the other five.

United contends that there are reasonable prospects that the company will receive non-mail revenue more than sufficient to offset additional costs occasioned by the above six stops. Frank Quindry, UAL attorney, told the CAA. United would not need mail pay, but believes that the carriage of mail is desirable to the stops, he said, adding that no additional airway aids will be necessary.

Service would be performed with Boeing 247-D equipment, making connections at Sacramento for the east, Red Bluff for the north and Fresno for the south, Quindry said. He emphasized that the stops do not comprise a new route. The company has estimated that additional passenger revenue to be received from inclusion of the stops on AM11 would have been \$110,000 in 1939, \$146,000 in 1940 and \$166,000 in 1941.

Quindry pointed out that the stops are in the Great Central Valley, containing such projects as the Shasta and Friant Dams. Pacific Constructors Inc., the company constructing Shasta, has indicated that it will use air transportation, he said, adding that government officials also will use the service. The projects, he said, will result in increased population and industrial activity in the valley.

### Trans-Southern Denied; Examiner Asks Line for Braniff

A proposed report issued May 9 by CAA Examiner F. A. Law Jr., recommended an Oklahoma City-Amarillo route for Braniff Airways, and asked denial of the Braniff and Trans-Southern applications for Amarillo-Atlanta. Complete story on page 32.

### Export Takes Exceptions

American Export Airlines recently filed exceptions to the proposed report of CAA Examiner C. Edward Leasure recommending that the company be awarded a New York-Rome operation. Export takes exception to the conclusion that application for certificates to England, France and the Irish Free State should be dismissed pending removal of present legal barriers (Neutrality Act); to the conclusion that issuance of a certificate is subject to availability of landing rights, and to the conclusion that a temporary New York-Rome service with a twin-engined Consolidated flying boat is not necessary.

### TCA Favors One N Y-Toronto Operator

There should be only one operator on the proposed route between Toronto and New York at the present time, according to a brief filed May 10 with the CAA by Trans-Canada Air Lines. The brief referred to the case involving applications of Canadian Colonial, American, Northwest and Pennsylvania-Central for various routes between Toronto-New York, Toronto-Buffalo and Chicago-Windsor-Niagara Falls-New York. TCA has also asked for Toronto-New York and Buffalo-Toronto.

"The intervener believes that the public interests, convenience and necessity wholly will be served if there is granted at the present time but a single certificate," TCA stated. "Surely no one would seriously contend that a certificate arbitrarily must be issued to a U. S. airline in every instance where a Canadian carrier has been granted a permit, or vice versa, a permit forthwith must be granted to a Canadian line merely because a U. S. line has been granted a certificate."

The American companies have maintained that a Canadian line should not be allowed to operate unless there is reciprocal service on the route.

### TWA Plans New York-Boston

TWA has filed application for a New York-Boston operation. Complete story in AMERICAN AVIATION, May 15.

### Eastern Denied

The CAA has denied the petition of Eastern Air Lines for re-hearing, re-argument or re-consideration of the recent CAA decision granting National Airlines a Daytona Beach-Jacksonville extension and denying certain applications of EAL in Florida.

### American Seeks Single Certificate, New Stops

American Airlines on May 21 informed the CAA that it will file application shortly for issuance of a single certificate, to be known as AM4, covering its present AM4, Dallas-Los Angeles, and AM23, New York-Pt. Worth. The company will then ask inclusion of Louisville as an intermediate stop between Washington and Nashville, and inclusion of Oklahoma City and Lubbock between Memphis and El Paso.

### Albuquerque-San Diego Asked by AA

Intention to file an application for mail-passenger-property service between Albuquerque and San Diego via Phoenix and El Centro was indicated May 21 by American Airlines. The application will be substituted for the one now on file for Oklahoma City-Lubbock-Albuquerque-Phoenix-El Centro-San Diego.

### All American Aviation Proposed Report

CAA Examiner Robert J. Bartoo on May 21 issued a proposed report stating that the Authority lacks jurisdiction over issuance of certificates to All American Aviation Inc., on routes using a pick-up and delivery device. Complete story on page 30.

## United Redecorates Mainliners



United Air Lines has launched a project to redecorate its fleet of transports, requiring five days to complete a plane and a year to complete the entire fleet. First of the newly decorated ships left the Cheyenne overhaul base recently in its new red, white and blue color scheme. Same colors are used on United's Boeings except that paint is used overall, the white being used to cover all background surfaces. Weight of the paint job on the Douglasses is about 15 pounds.

## Hearings on UAL's Air Mail Cancellation Suits Against U. S. Due to Close in June

After numerous meetings held intermittently over a period of two years, hearings in the Court of Claims on the \$3,110,555.43 suits of United Air Lines against the U. S. Government resulting from the 1934 air mail contract cancellations are due to close in June.

Brief hearing was held May 13 before Court of Claims Commissioner Richard Akers, testimony being given by Earl Wadsworth, superintendent of air mail for the Post Office Dept. in 1930. Wadsworth briefly discussed the May 19, 1930, meeting in the P.O. at which time the government claims the operators decided among themselves which company would bid on each route. He stated that he took notes, but had no active part in the meeting.

At the conclusion of Wadsworth's testimony, the government rested its defense on the United suits. On June 10, it will present two witnesses on its counterclaims against the United companies, which amount to \$23,409,946.23.

and on June 11, Paul Godehn, United attorney, will give short rebuttal. Following this the case will close. Each party submits proposed findings. Commissioner Akers renders his opinion, and the case may be argued before the Court.

The government apparently has abandoned its threats made in December to introduce 2,000 more exhibits and 52 additional witnesses. The United companies—Pacific Air Transport, Boeing Air Transport and United Air Lines Transport Corp.—won a victory in January when the Court denied a government motion to sever certain issues in the case.

First hearing on the suits was held Apr. 26, 1938. United has on more than one occasion accused the government of stalling and causing unnecessary delays. It is generally conceded that there will not be a decision in the case until after the presidential election.

### New PCA Non-Stop

Pennsylvania-Central Airlines on June 5 will inaugurate non-stop service between Washington and Cleveland. Plane will leave Washington at 5:15 pm., arriving Cleveland, 7:20 pm.; leave Cleveland, 6:31 pm. and arrive Washington 8:30 pm. The trip will materially shorten the PCA-United Air Lines connecting service from Chicago to Washington.

### WAE Non-Stop Service

Western Air Express has informed the CAA that it will operate non-stop service from Salt Lake City to West Yellowstone during the period from June 15 to Sept. 15. Focattello is to be a flagstop on southbound flights.

### David Assists Duncan

Appointment of Nelson B. David as assistant to F. L. Duncan, vice-president—operations for Canadian Colonial Airways, has been announced by Sigmund Janas, CCA president. David resigned the position of air carrier inspector with the CAA to accept the new job. He formerly was a first officer for United Air Lines.



David

## NWA to Open New Route on June 1

Service on AM45, Northwest Airlines' new route from the Twin Cities to Duluth-Superior, will begin on June 1, according to announcement by Croil Hunter, president.

Trips will operate northbound at 6:20 am. and 5:00 pm., arriving in Duluth at 7:35 am. and 6:05 pm., respectively. Southbound schedules will leave Duluth at 7:45 am. and 6:30 pm., arriving in Minneapolis at 8:45 am. and 7:30 pm., respectively. All schedules have been designed as mail pay trips by the Post Office Dept.

Captain of the first plane to make a run over the line will be Jerry Sparboe who formerly flew a pontoon-equipped ship over the route several years ago.

### Schneider Joins Law Firm

Hubert A. Schneider, attorney for the CAA, on May 15 became associated with the law firm of Whiteford, Hart and Carmody, Washington, D. C. Schneider will engage in the general practice of law, devoting special attention to civil aeronautics. Roger Whiteford, member of the firm, is counsel for Braniff Airways. Schneider, who has been with the CAA since its creation and in government service since 1933, has represented the CAA at numerous airline hearings during the past year.

### Calendar of Hearings

- June 3—Pan American Airways, application for setting of air mail rate for third trans-Atlantic trip. Carlton Hotel.
- June 3—Boston-Maine Airways, application for extension of AM27 from Bangor, Me., to Moncton. N. B. Roger Smith Hotel.
- June 5—Boston-Maine Airways, oral argument on recent CAA rate decision. Room 5044, Dept. of Commerce.
- June 19—American Airlines, inclusion of Windsor, Ont., and Niagara Falls, N. Y., as intermediate stops on AM7. Carlton Hotel.
- July 29—New York & Bermudian Air Line, new route from Newark to Bermuda. Raleigh Hotel.

## Airline Folks in the News



Reading from left to right, these airline personalities make news this issue: Edward Sullivan, former chief of stations for Pennsylvania-Central Airlines, recently was appointed general traffic manager of the line with headquarters at Pittsburgh.

Warren A. Pine is shown as he boarded a TWA plane at Chicago on the first leg of a flight to his new post in the regional director's office of Pan American Airways in Rio de Janeiro. With PAA for three years, Pine formerly was district manager for the line in Chicago. (TWA photo).

Merle Oelke, photographer for American Airlines who turns up wherever com-

pany news is made. Recently he accompanied an AA survey flight to Mexico City. Albert Edward Floan of St. Paul, Minn., has been appointed Seattle traffic manager for Northwest Airlines, succeeding William Burton.

Lee Arthur, former station manager at Newark for American Airlines, has been appointed assistant manager of air mail and air express. Together with John Wiley, Arthur will be assigned to American's general office staff.

Jerry Curry, formerly in American Airlines' steamship and agency department, New York, has been named New York district air express representative. Curry has been a member of AA's staff since 1929.

## Airline Personnel

Ben Kelly, formerly in TWA's maintenance department at Burbank, Cal., has been transferred to Kansas City, Mo.

TWA's station manager at Fresno, Cal., H. A. "Herb" Stancil, recently was awarded a 10-year pin.

New TWA passenger agent at Indianapolis is Ed Kammerer. Transferred from Indianapolis to Pittsburgh was Tommy Needham.

New TWA first officers are William E. Townsend, O. B. Whitmore, Joseph E. Carr, Boone T. Guyton, E. F. Hughes, William A. Perron, Allan B. Lullman and W. M. Flanagan, based at Kansas City, Mo.; U. J. Kampsen, based at Chicago, and J. F. Keller at New York.

Laddie Prochazka and Paul Guse of Penn-Central's maintenance department have been transferred from Pittsburgh to Milwaukee.

Announcement was made recently of the appointment of Lester E. Andersen as city passenger agent in the Portland, Ore., area for Northwest by Guy Talbot Jr., d.t.m.

H. F. Blackburn, TWA captain at New York, has been transferred to check pilot.

Kenneth H. Robinson, manager of the Boise, Ida., office of United, recently announced addition to his staff of Carl Rotter.

John J. Punzavitz has been transferred from Bermuda to Lisbon, Portugal, by Pan Am at which place he will succeed Theodore Sipkowski who has been promoted to chief mechanic at the Horta, Azores, base.

Edward G. Bern, director of publicity of American, has been elected to professional membership in Sigma Delta Chi, national journalism fraternity, by the organization's chapter at Northwestern University.

Recent transfers of TWA first officers follow: O. L. Ericson, Kansas City to Burbank; R. E. Fields, San Francisco to New York; John Milner, 'Frisco to NY; Joseph H. Imeson, KC to Chicago; Frank C. Saylor, KC to 'Frisco, and R. R. Loehner, KC to NY.

Having undergone training at Winipeg, Charlie Lloyd is a new co-pilot for Trans-Canada.

H. F. Baker Jr., 26, native of Minneapolis, has been employed as a pilot flying with Eastern. He is stationed at Newark, N. J.

J. H. Stokes, formerly a passenger agent for PCA at Pittsburgh, has been appointed an engineer in the operations dept.

Dillon Ferris, formerly with TWA, has joined Penn-Central's reservation office at Washington.

Lincoln Lathrop, formerly with Charles H. Babb Co. as sales pilot, has become a first officer for Eastern.

Fifteen new employes have been added to the reservations dept. of United. James Rauhen, manager of reservations, has announced. They are D. C. Meenan and A. Fox, New York; F. Featherstone, J. Colpaert and P. Snider, Los Angeles; B. W. Taylor and G. E. Livingston, Cleveland; P. J. Brandin, A. M. DeVoursney, H. R. Doughty and R. E. Geary, Chicago; L. M. Greening, R. D. Sweet and J. L. McKean, Seattle, and R. C. Ewing, San Francisco.

James Millward has been appointed a PCA meteorologist at Pittsburgh.

New TWA sales representatives are John P. Loughnane, Chicago; J. R.

Keegan, Ray Thorpe and L. G. Mitchell, New York; D. Gibson, Albuquerque; M. M. Stockman, Los Angeles; Howard Hampe, Pittsburgh, and George Brown Jr., Burbank.

E. H. Johnson has been transferred by United from Boeing School of Aeronautics, Oakland, Cal., to be in charge of the new mechanics training school at Cheyenne, Wyo.

Penn-Central First Officers P. F. Koehn, E. H. Gerber, G. A. McKee and S. Carey Pierman have been promoted to reserve captains. First Officer W. H. Riley has been transferred from Detroit to Washington.

Hamilton White and Howard Reid are in training at Oakland, Cal., for positions as first officers with United.

TWA has appointed R. W. Burrill, J. H. Maylarr and K. E. Nealon as reservations clerks in Kansas City, Mo.

Lee Bregenzler, statistician for PCA's accounting dept., has resigned to accept a position in the engineering dept. of United Aircraft Corp., East Hartford, Conn.

W. A. "Dusty" Twombly has become co-test pilot for United in Cheyenne. He succeeds Joe Irvine who was promoted to reserve captain and assigned to Chicago.

Following recent TWA transfers and promotions, Robert S. Knapp is now passenger agent in New York; Richard McGrew, sales, Kansas City, Mo.; Ralph Oursler, sales representative, Burbank, Cal.; H. W. Sims, passenger agent, Burbank; W. A. Lerner, station manager, Burbank; C. C. Russell, passenger agent, Albuquerque; L. F. Koster, reservations manager, Pittsburgh; C. P. Ross, sales representative, KC; George A. Gibson, sales representative, Albuquerque; H. L. Wheeler, sales representative, Los Angeles, and E. F. Gerdes, sales representative, Hollywood.

William Bowden and Richard Numan, both of Penn-Central's flight control office, have been appointed apprentice radio operators.

Ben Garrahan has become a meteorologist for Braniff.

Earl Peters and Robert Laws are working as mechanics with Continental at Denver.

With the appointment of R. W. Hardesty, station manager at Detroit, as chief of stations for PCA, Phil S. Reid, Cleveland station manager, has been transferred to Detroit in the same capacity. D. C. Wilt replaced Reid at Cleveland.

## First Officers Advanced

R. T. Freng, director of flying for United Air Lines, has announced that 13 first officers have been advanced to reserve captains. New reserve pilots are J. D. Treher, H. G. Portman, J. H. Keeton, S. R. Richards and N. F. Timper, flying between Chicago and New York; N. B. Johnson, between Chicago and Cheyenne; G. R. Thies and W. R. Thornberry, between Portland and Salt Lake City; R. S. Mitchell and L. Kriloff, between Oakland and Salt Lake City; L. V. Brusse, between Seattle and Oakland; R. S. Kinkel, between Salt Lake City and Cheyenne; V. A. McDermont, between Chicago and Oakland.

## EAL Will Hire 75 Pilots in 5 Months

With the appointment of 11 new pilots, Eastern Air Lines announced that it will hire 75 more pilots during the next five months, according to Capt. E. V. Rickenbacker, president and general manager. This will mean an increase of one-third in the company's pilot personnel. As of Apr. 30, EAL had 111 captains and 110 pilots on duty. In the last six months the company has promoted 21 pilots to captain status and has employed 54 new pilots.

Most of the new pilot personnel will come from the Army, Navy and Marine Corps flying schools, Capt. Rickenbacker said.

The following 11 pilots were included in EAL's latest group:

Stationed at Newark, N. J.—William B. Gray, Columbus, Neb.; J. D. Morrison, Shelby, N. C.; A. C. Nowak, Buffalo, N. Y.; R. W. Williams, Lakeland, Fla.

Stationed at Atlanta, Ga.—Harry N. Horton, Macon, Ga.; J. P. Jones, Moscow, Ida.; Ben F. Rogers, Bloomington, Ind.

Stationed at Miami, Fla.—Arnold W. Beyeler, Pine Island, Minn.; John Martinson, Concord, Mass.

Stationed at Tampa, Fla.—John E. Haynes, Cliffside, N. C.

Stationed at LaGuardia Field, New York—F. H. Spear, Burlington, Vt.

## Hugh Coburn Heads New WAE Department

Hugh W. Coburn, district traffic manager for Western Air Express in Los Angeles since 1936, has been named director of passenger service, a new department created by the company to coordinate the work of passenger agents, stewardesses, reservation and ground transportation agencies. His headquarters are in Burbank.

Coburn has been in air transportation since 1929. After serving as general traffic manager for U. S. Airways in Kansas City, he managed the consolidated ticket office in that city. Later he worked in the Kansas City and Chicago passenger service departments of United Air Lines before going to Los Angeles in 1934 as manager of UAL's agency department.

## Bonnalie Assists Herlihy

United Air Lines has appointed Allan F. Bonnallee, assistant superintendent of flying, as assistant to J. A. Herlihy, executive vice-president—operations. He also will be chairman of United's schedule committee.

## Johnson Returns to United

Ralph S. Johnson, test pilot and delivery pilot for Douglas Aircraft Co. at Santa Monica, Cal., is returning to United Air Lines to be test pilot for the line at Cheyenne, Wyo. In 1919, Johnson made a world's record by completing 427 loops in a LePere plane powered by a Liberty motor.

## NWA Elects Hardy to Board of Directors

Robert Monroe Hardy of Yakima, Wash., president of Sunshine Mining Co. of that city, has been named to the board of directors of Northwest Airlines, it was announced by Croll Hunter, president and general manager, and Shreve M. Archer, chairman of the NWA board.

## Lynn to Sioux Falls

W. R. Lynn, former sales representative for Mid-Continent Airlines in Minneapolis, has been appointed district sales manager for the line in Sioux Falls, with headquarters at the Municipal Airport. W. M. Ehart, who has represented MCA in Huron, Omaha and Kansas City, has been shifted to the Twin Cities. Lynn's territory, a new sales district, will include Sioux Falls, Huron, Aberdeen and Bismarck.



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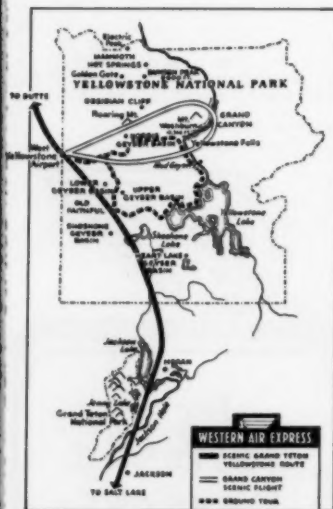
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## New Scenic Area Opened to Air Travelers

## Grand Tetons—Jackson Hole—Old Faithful Included in Special Yellowstone Scenic Flight

Tucked into the northwest corner of Wyoming is one of the greatest scenic areas on the globe. Here are the majestic Grand Tetons, rising abruptly from the shores of Jackson Lake. Here is Jackson Hole, former outlaw stronghold but now dotted with peaceful dude ranches. Here, too, is Yellowstone Park which, in addition to its famous features, contains hundreds of square miles that are practically never seen by the average tourist.

This vast scenic playground has now been opened to the air traveler for the first time. From June 15 to September 15, Western Air Express will operate a daily Scenic Special between Salt Lake City and West Yellowstone. Leaving at 7 A. M., the plane will be routed over the low level territory of Jackson Hole affording an exceptional view of the magnificent Teton Mountains. The course will proceed over Jackson Lake and into Yellowstone National Park, passing directly over Old Faithful and the Geyser Basins.



Western Air Express will also operate a special half-hour scenic charter flight from West Yellowstone which will include Yellowstone Falls and the Grand Canyon of the Yellowstone. Thus, all of the Park's major features, plus many scenic marvels that tourists seldom see, will be available to the air traveler.

The Western Air Scenic Special will connect with all regular Yellowstone Ground Tours both in and out of the Park. No extra charge will be made over regular published fares. Transcontinental passengers on United Air Lines may purchase this scenic Side Trip in conjunction with their regular tickets for a special price of \$15.00 Round Trip.

## UAL Buys 4 Lodestars For Intercity Hops

United Air Lines has ordered four Lockheed Lodestars at \$86,700 each for delivery beginning in two months. It was announced on May 20 by W. A. Patterson, UAL president. Supplementing its present fleet of 38 Douglas and Boeing transports, this order increases to \$9,422,000 the commitments for new airplanes which United has made this year.

United's new equipment orders include 20 Douglas DC-4's at a cost of \$7,350,000 for delivery in the spring of 1941, and 10 Douglas DC-3's for delivery beginning in Nov. 1940.

"The new Lodestar was flight tested by United several weeks ago with highly satisfactory results," Patterson said. "Its outstanding speed, coupled with its economical size, make it especially adaptable for shorter intercity flights."

Pratt & Whitney series C wasps and constant speed full-feathering propellers will be fitted in United's Lodestars.

## New Market Study Planned For United by Hal Nourse

A special study of potential business services or new markets for airline service is to be undertaken immediately by United Air Lines under supervision of Hal E. Nourse, assistant to the president in charge of business research. Nourse has selected Paul W. Woelfel to handle this assignment.

Woelfel has been superintendent of passenger service at Salt Lake City and has a background of seven years experience with United in the traffic and passenger service departments. He is another United employee to profit by the company's policy of selecting qualified men from the ranks to take over new jobs.

## Preparing for Alaska Service

Preparing for the opening of Seattle-Alaska air service, Robert O. Bullwinkle, traffic manager for Pacific Alaska Airways, has announced the personnel of his passenger organization. W. S. Burton, former Seattle district traffic manager for Northwest Airlines, will be PAA district traffic manager for the interior of Alaska with headquarters at Fairbanks; Louis Delebecque, southeastern Alaska traffic manager with headquarters at Juneau, and Don Wright, agent at Ketchikan. Delebecque will be assisted by John W. Gliwee, former Los Angeles traffic agent for TWA.

## Air-Bus Service Started

A joint round trip air-bus fare of \$22.95 between New York and Montreal was put into effect May 15 by Canadian Colonial Airways and Champlain Bus Corp. The tariff covers air service performed one way in either direction by Canadian Colonial, and motor service one way in either direction by Champlain Bus Corp.

## For Volume Production



Following a lengthy development program, Collins Radio Co., Cedar Rapids, Ia., has introduced the Collins 231C Autotune transmitter for volume production. Used in aeronautical ground stations, government and military services, point-to-point communications, emergency communication and other applications, the 231C is recommended for all high frequency services even where only one or two frequencies are actually employed. Collins has prepared an elaborate bulletin on the 231C transmitter, copies of which are free on request.

## Freng Seeks Co-Pilots

R. T. Freng, director of flying for United Air Lines, has completed a 10,000-mile aerial tour of the U. S. in the company's Boeing flight research plane, having stopped at military air bases in an effort to interest reserve officers soon to leave the service in airline flying. United is employing 70 new co-pilots in the expansion of flying personnel.

## War Adds Mainliner to United's Fleet

The war added a new Mainliner to United Air Lines' fleet in mid-May when a Douglas DC-3 enroute for delivery to KLM, Royal Dutch Air Lines, was halted by European developments.

The plane was one of four DC-3's purchased from Douglas Aircraft Co. Inc. by KLM and was being flown by factory pilots to New York for shipment to Holland. But by the time the plane reached Chicago the Dutch airline notified Douglas officials to stop the shipment. United immediately stepped in and purchased the plane, which then was flown to Cheyenne for conversion into a Mainliner at UAL's overhaul base.

## WESTERN ELECTRIC GETS AR CONTRACT

To Build New Ultra-High Set Providing Inter-Communication of Aircraft in Flight

Paul Goldsborough, president of Aeronautical Radio Inc., jointly-owned by the air transport companies, announced May 20 the signing of a contract with Western Electric Co. Inc. for a quantity of ultra-high two-way aircraft systems. Specifications have been drawn up during the past seven months and all airlines have approved them. Thus the new radio equipment will be standard for the industry.

The new set weighs only 34 pounds, complete with power supply. For the first time this ultra-high system makes possible inter-communication between aircraft in flight, providing a common frequency for all aircraft which is always turned on so that pilots will hear all aircraft calls. Heretofore the position of an aircraft has been made known to another aircraft flying the same airway through ground station, i.e., aircraft to ground and ground to aircraft. With this new Western Electric unit, aircraft will be able to communicate with each other.

## Camille Stein Directs

## NWA Passenger Service

Camille Stein of St. Paul on May 20 was appointed director of passenger service for Northwest Airlines, according to Croll Hunter, NWA president and general manager. Miss Stein has been with NWA since 1928 when she joined the organization as secretary to the general manager. In 1931 she was named assistant general traffic manager and a few years later became assistant secretary and member of the board of directors.

## BAM Buys Training Devices

Link Manufacturing Co. of Canada has received a \$600,000 order for 80 of a new type trainer from the British Air Ministry. Unlike the ordinary Link trainer, these machines allow the student to see out. An operator outside the trainer throws the machine into a spin and other aerobatic maneuvers.

## United Payroll Up

The Cheyenne, Wyo., payroll of United Air Lines reached its highest peak since 1934 recently when the list stood at 455 men and women, according to W. P. Hoare, superintendent of the repair base. Monthly payroll has risen to about \$60,000, a total equalled in 1934. Hoare said employment is expected to increase this spring and summer.

## Quebec Airways Traffic Up

Quebec Airways Ltd., subsidiary of Canadian Airways Ltd., has reported gains for the first quarter of 1940, compared with 1939 results, shown in parenthesis, as follows: passengers, 2,760 (2,347); mileage, 105,151 (90,102); hours, 1,009.05 (831); mail poundage, 118,306 (95,273); freight poundage, 128,741 (89,823).

## LG's Announcing System

New York's LaGuardia Field has been equipped with an elaborate Western Electric announcing system designed to bring information as to the arrival and departure of transports to every portion of the field where passengers may gather. Eighty-five loudspeakers in the administration building and on the loading platform broadcast announcements which originate at microphones located at 15 different information centers. Each microphone is equipped with a "press-to-talk" switch which makes the entire system available to but one microphone at a time.

## R2 REMOTE CONTROL ANTENNA REEL

Designed for use with powerful transmitters such as the Western Electric 27A. Performs beautifully at 25,000 feet and higher. Light, compact, easy to operate, complete remote control.

Western Electric  
AIRCRAFT RADIO SYSTEMS



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# Twin Wasps over the Rockies

To keep pace with rapidly expanding patronage, Continental Air Lines is adding to its fleet a group of high-speed Lockheed Lodestars. Continental operates out of airports high in the Rockies. This calls for extra power at take-off. And so, each of these new Lodestars will be powered by dependable Pratt & Whitney Twin Wasps.

**PRATT & WHITNEY AIRCRAFT**  
One of the three divisions of  
**UNITED AIRCRAFT CORPORATION**  
EAST HARTFORD, CONNECTICUT




## Revenue from Non-Aviation Sources Can Make Airports Pay, Mason Says

Making airports pay for themselves by deriving income from sources not directly a part of aviation operations was advocated recently by G. Grant Mason Jr., member of the Civil Aeronautics Authority, at a regional airport meeting in Atlanta, Ga.

Stating that "we should take a long look at airport restaurants," Mason also pointed out that where land is available for airport expansion it can be profitably used until needed for aviation purposes. Public parks, tennis courts, golf courses, swimming pools, and similar enterprises could be operated, he said.

Mason also explained the practice at some European airports of charging for tours of the field, entrance fees, and other ideas. The Schiphol Airport at Amsterdam, Netherlands, utilized principally by KLM, was operating at a deficit a few years ago, Mason said. KLM, in an effort to increase its own revenues, conducted a survey and concluded that well-equipped, clean, efficient and well-managed airports open to many visitors and offering adequate attractions, "are much better propaganda for aviation than newspaper advertising, free passes for wives, air traffic weeks, etc."

It was found at Schiphol, Mason said, "that reasonable charges for admission and special services for the visiting public at the airport produced more satisfactory results from the point of view of advertising and propaganda than was the case when no charges at all were assessed. Furthermore, experimentation with the amount of charges revealed that a certain level of fees charged the visiting public at the field actually increased instead of diminished the number of visitors. To quote again from the official report to the Authority on the Amsterdam Airport policy, 'It is considered that free admission and tours do not have the value of those for which payment is made, entirely aside from the revenues thus obtained.'

"By experimentation, the charges which were found to be most reasonable and productive for the Schiphol Airport . . . included 15 Dutch cents entrance fee for everyone except those who were airline passengers or had some other aviation reason to be at the field, 15 cents additional for a tour of the field on foot with a guide, 30 cents for a tour of the field in a bus with a guide, and three guilders for a sight-seeing flight in a Fokker plane, chosen because of its high wing and good visibility, or an American Douglas plane, used as an example of a regular air transport aircraft.

"Combining all fees, visitors could see the entire airport, including the terminal building, hangars, KLM over-

haul shops, and the Fokker manufacturing plant, and have a sightseeing flight over the field for approximately two American dollars. In addition to the technical features, music, 24-hour restaurant and bar service, dances, and other social activities were available at the field."

The airport is now operating at a "very healthy profit" which has permitted somewhat of a reduction in many of the rental charges against aviation operations, Mason said.

The terminal building at the new Templehof Airport in Berlin covers some 35 acres of ground area under roof, Mason told the meeting, adding that the roof of the main hall is a restaurant, seating 2,500 people. This is strictly "de luxe," charging high prices, he said. However, the center section of the hangar roof, where 100,000 persons can gather, can hold tables and chairs to serve 60,000, he added.

Mason emphasized "the feeling of the Authority that airports should exercise the greatest caution in attempting to assess further fees and charges against aviation operations."

Within a small and very inadequate passenger terminal at one eastern airport is a newsstand which serves soft drinks, crackers, and candy," he said. "This stand last year received a gross income of \$25,000, whereas two curb service shops, a hot dog stand and a frozen custard booth, all within about 150 yards of the passenger station, last year received a gross income of over \$675,000. This gives some idea of what sort of business might be done where there is a proper airport restaurant in existence."

At another airport, the operator of the restaurant had originally estimated that the airport should benefit from a percentage of the gross restaurant receipts to an extent which might reach \$100,000 per year, Mason said, adding, however, that the operator now believes \$100,000 is very low.

The CAA has done a lot of things along these and related lines in working out plans for Gravelly Point Airport at Washington and hopes "it may prove to be not only an example physically and technically for other airports but also a sound example in airport economics," he said.

### Vanguard's Speed Disputed

Speed of the Vultee Vanguard export (Sweden) model as given by the Aviation Writer's Association at 319 mph. was emphatically denied recently by the Downey, Cal., company. "This is the slowest version of the Vanguard," according to Ted Sullivan, Vultee's publicity-advertising chief. "You can safely say it does better than 335 mph."

## Republics for Sweden



The Republic EP-1 pursuit plane, of which a large number are being produced for Sweden by Republic Aviation Corp., Farmingdale, N. Y., is a fast and highly maneuverable fighter with a speed rating of over 300 mph. Powered by a Pratt & Whitney Twin Wasp engine of 1,050 hp., the craft is mounted by two synchronized 30-caliber guns to fire through the propeller disc and two 50-caliber wing guns. A bomb load is carried. The EP-1 is a single seat plane but provisions are made to transport a passenger in emergencies. Prototype of this model is the U. S. Army Air Corps' P-35, also produced by Republic.

## CAA Lacks Jurisdiction Over AAA's Pick-up Routes, Examiner States

Claiming that the CAA does not have jurisdiction over experimental air mail routes established by the Post Office Dept. and using a patented pick-up and delivery device, CAA Examiner Robert J. Bartoo on May 21 recommended that the applications of All American Aviation Inc. for six routes be dismissed insofar as transportation of mail is involved, and denied in other respects because it was not shown that carriage of persons and property only is required by the public interest.

All American was seeking six routes, including AM1001 and 1002, the experimental air mail service operated under a PO contract. The company had asked to be allowed to carry passengers, as well as mail and express. Service on AM1001 and 1002 is suspended at present, the PO contract having expired.

Bartoo pointed out that AM1001 and 1002 were operated on an experimental basis under the Act of Apr. 15, 1938, which directed the Postmaster General to report to Congress on the final results of the service, and recommend legislation to establish it on a permanent basis if he found it essential or useful. (The PMG has recommended continuation of the service. See story on page 32).

"It is clear," Bartoo said, "that service established under the provisions of this Act (Apr. 15, 1938) remain in an experimental status until such time as Congress determines that such services are useful or essential and passes further legislation establishing them on a permanent basis."

He then quoted section 405(1) of the Civil Aeronautics Act which states that nothing in the Act shall be construed to repeal provisions of the

Apr. 15, 1938, Act. Carriage of mail under contracts entered into under this latter act shall not, except for sec. 401(1) and 416(b) be deemed to be "air transportation" and the rates of compensation for such transportation of mail shall not be fixed under the CAA Act, according to section 405(1).

"It would appear that the jurisdiction conferred upon the Authority by the Civil Aeronautics Act of 1938 is limited by the provisions of sec. 405(1) which specifically exempt experimental services supervised by the Postmaster General under the provisions of the prior Act and that the Authority has no power to issue a certificate . . . authorizing the transportation of mail by air when such transportation would require the use of patented pick-up and delivery equipment," Bartoo said.

"The transportation of persons and property by aircraft was not included in the subject matter of the Act of Apr. 15, 1938, and the jurisdiction of the Authority over these two classes of traffic is not challenged. However, the applicant does not seek authorization to operate a passenger and property service, without mail, and the record does not support a finding that the public convenience and necessity requires such an operation."

AAA was seeking mail-passenger property certificates on (a) Pittsburgh-Huntington via 19 intermediate points, (b) Pittsburgh-Huntington via 20 other intermediate points, (c) Pittsburgh-Cleveland via 11 points, (d) Pittsburgh-Buffalo via 17 points, (e) Pittsburgh-New York via 26 points, and (f) Pittsburgh-New York via 29 other points. Through transportation of passengers between terminals was not to be performed.

## AAA's Pick-up Routes Suspended as PO Rejects Bids; CAA Action Awaited

Temporary suspension of All American Aviation's pick-up air mail routes in Pennsylvania, West Virginia and Ohio went into effect May 13 following rejection by the Post Office Dept. on May 10 of all bids on the lines.

The PO advertised for bids because the company's experimental contracts expired May 11 and 13, and no action had been taken by the CAA on AAA's applications for certificates of convenience and necessity.

On May 10, First Assistant Postmaster General W. W. Howes returned all bids unopened, and announced that the PO had decided to rush its recommendations to Congress rather than re-advertise the routes. It is known that there was at least one other bidder in addition to AAA.

Four days later the PO recommended to Congress that the service be continued on a permanent basis, explaining that during the past year it has been a definite success. A similar recommendation was made on the autogiro service operated by Eastern Air Lines from Camden Airport to the roof of the Philadelphia Post Office.

The PO has taken the position that it has no control over such routes after they have passed the experimental stage. It feels that if the law is not now clear, it should be clarified to give the CAA definite jurisdiction over those types of operations.

Unless a temporary method is discovered, AAA will not be permitted to carry mail until it has received

a CAA certificate. Inasmuch as there were four interveners in its certificate hearing, the suspension may be for a substantial period.

### Addition to United Hangar

United Air Lines has completed the erection of an addition to its main hangar at the overhaul and repair base at Cheyenne, Wyo., and expects to be able to utilize the additional space within a short time. The addition is 120 by 30 ft., supplying 3,600 sq. ft. of new space for the company's repair base work.

### United Adds 425 Employees

United Air Lines has added 425 new employees in its expansion of personnel so far this year to handle increases in passenger traffic, according to T. B. Marshall, director of personnel.

### Express Shipments Increase 18.76%

March air express shipments by Railway Express Agency totaled 84,336, an increase of 18.76% over Mar. 1939. Gross revenue was up 19.6% for the month, company reported.

### Covering the Town

Advertisements urging the use of air mail have been placed in 133,167 rooms in 477 hotels in New York City by Postmaster Albert Goldman, according to the Post Office Dept. "Hotel advertising is one of the best forms of advertising, because it brings the message to the attention of persons away from home, most of whom are potential patrons," the PO stated.

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**69%**

of United States airlines fly  
airplanes built by Douglas.

**70%**

of all airplanes in U. S. air-  
line service are the DC se-  
ries built by Douglas.

**88%**

of all transports ordered by  
U. S. airlines for 1940 deliv-  
ery are Douglas DC-3s.

For 20 years Douglas' growth has continued apace independent of general world conditions. Fruit of this growth is the undisputed leadership of Douglas in the air transport field.

IT PAYS TO **FLY DOUGLAS**



## Amarillo-Oklahoma City Route Favored for Braniff; TSA Denied

Existing air transportation between Amarillo, Memphis and Atlanta and between Oklahoma City, Memphis and Atlanta is adequate to meet the present public needs, CAA Examiner F. A. Law Jr., said in a proposed report on May 9, recommending denial of applications of Trans-Southern Airlines and Braniff for Amarillo-Atlanta routes (AMERICAN AVIATION, May 15).

Examiner Law recommended that Braniff be awarded a route between Amarillo and Oklahoma City, and that TSA's application be denied in all respects. Eastern Air Lines and Delta had intervened in the hearing, stating that they can furnish all necessary service between Atlanta and Memphis.

Because of the development of the oil and gas industries, there has been a marked increase in commercial and industrial activity between Amarillo and Oklahoma City, the report said, adding that the character of these industries makes slight delays extremely costly.

"Between these cities the savings in transit time by air would be proportionately large," Law said. "The operations of either applicant would effect a reduction of approximately 283 miles, or more than one-half of the existing air route distance, and three hours or more out of nearly four and one-half to six hours per passenger, via existing routes, in elapsed time. Under such circumstances, it can scarcely be said that an operation between these points would parallel or compete with the present circuitous routes."

Except between Amarillo and Oklahoma City and Oklahoma City and Memphis, the distances over the present connecting routes exceed those over the proposed route by less than 20%, the report said, adding that between the two latter named points the difference is less than 30%. "Savings which would accrue, of time or fare, from the proposed air transportation in its entirety would be insignificant," it concluded.

"The direct competition between Memphis and Atlanta would be substantial and therefore detrimental to existing carriers. When it is considered that a greater volume of traffic flows between these points than between any other cities involved, and that the operation of this segment, according to the record, is at a substantial loss, it is exceedingly difficult to justify the inauguration of an additional line."

The report found Braniff fit, willing and able to operate the Amarillo-Oklahoma City line. Concerning Trans-Southern, it was stated that the company is newly organized "with no previous experience in the air transportation industry. The purpose of this applicant is to develop the neglected field of short-haul or feeder traffic, in addition to its participation in the long hauls. This is a worthy aim. But, the difficulties confronting it in the presence of, indeed to a large extent in direct competition with, other carriers equipped for the longer haul traffic which this applicant might hope to obtain with its smaller equipment as proposed, form an economic barrier to success at variance with the apparent purpose of the Act to develop an air transport system economically sound and eventually independent

and productive to the whole community.

"If a certificate were awarded this applicant authorizing the operation of the Amarillo-Oklahoma City segment, obviously it would necessitate the assumption by the applicant of substantial expense which Braniff could avoid. It is extremely doubtful if Trans-Southern could successfully conduct, or would desire to conduct, transportation service between Amarillo and Oklahoma City only.

"It is indeed unfortunate to discourage the initiative of new enterprise and new thought in a pioneering industry, but that is the inevitable result where, as here, it cannot be fitted into the existing scheme with reasonable expectation of success and without harmful effect upon the whole."

## PO Recommends Pick-up, Autogiro Service be Put on Permanent Basis

The Post Office Dept. on May 13 told Congress that All American Aviation's pick-up air mail routes and Eastern Air Lines' autogiro service have proved to be "very reliable and satisfactory" and urged continuation of both on a permanent basis.

Both companies had been operating under one-year experimental contracts with the PO. It is now necessary for them to secure certificates of convenience and necessity from the CAA.

First Assistant Postmaster General W. W. Howes transmitted a letter to Congress stating that All American had a high performance record despite one of the worst winters in recent years. The company carried mail in and out of Pittsburgh when snow conditions made landings impossible, and operated in the Ohio Valley during the floods, he said.

Although the service has been patronized, loads would be heavier if the company had schedules after the close of the business days, Gen. Howes said, explaining that AAA has experimented with neon lights for night operation. Tests have "proved conclusively the feasibility of night operations," he added. "Furthermore, due to the close proximity of pick-up stations in this type of service, it appears that night operations could probably be carried out without a great cost for equipment of lighted airways."

AAA's pilots and operators "are unanimous in their opinion that this type of operation is safe and that if the device is used on a multi-motored plane constructed for the purpose, passenger service would be feasible," the PO said. The company was also commended for operating without a single casualty, a record that is "perhaps without precedent."

The autogiro service has had only a few minor mishaps, and "considering the fact that this is also an entirely new type of operation, which has never been carried on before on regular schedule, this is a most remarkable record and conclusively proves the reliability of this type of service," Gen. Howes said. He added that the Army is arranging for development of an autogiro with a much

## After a Busy Day



Frank Brunton (left), assistant to Edward G. Bern, director of publicity for American Airlines, and Wayne L. McMillen (right), assistant to C. R. Smith, president of American, are shown during a period of relaxation in AA's Admirals' Club at LaGuardia Field, New York.

## McBee Directs Publicity

Avery McBee has been appointed director of public relations for Glenn L. Martin Co., Baltimore, Md.

## EAL Appeals Order of Authority on NAL Florida Route

Eastern Air Lines on May 20 asked the U. S. Court of Appeals for the District of Columbia to review the Mar. 21, 1940, order of the CAA granting National Airlines an extension of AM31 from Daytona Beach to Jacksonville, and denying applications of EAL in Florida.

"The relief requested in this proceeding is that this Court set aside said order of Mar. 21, 1940, or modify the same so that it shall provide that (a) the applications of National Airlines be denied, and (b) that the applications of the petitioner be granted, or, if need be, that this Court order further proceedings by the Authority," Eastern said.

The company's petition stated that (a) the findings of the CAA upon which the order is based are not supported by substantial evidence and are contrary to the evidence; (b) the public convenience and necessity require the granting of the applications of EAL, and (c) the public convenience and necessity do not require the granting in whole or in part of the applications of NAL.

Eastern charged that the CAA decision "is unwarranted and not sustained by law or fact upon the record." The company had sought routes between Jacksonville and Miami via Tampa, and between Tallahassee and Orlando via Ocala. The CAA turned down both.

EAL's appeal is the second filed against a CAA final order, the first being the city of Newark against the North Beach decision.

## EAL, UAL Plan Ticket Office

Eastern Air Lines and United Air Lines have been completing plans to open a ticket office at 67 Wall St., New York City.

## Railroads Start Travel-on-Credit Program and Train-Auto Service

In the effort to stem the drainage of passenger revenues to highway and skyway forms of transportation, U. S. railroads, which experienced a dwindling of passenger income from a high of \$1,043,070,646 in 1926 to \$416,573,621 last year, recently opened travel credit and auto connecting services on a national basis.

Designed like the airline credit card system to simplify travel procedure, a travel-on-credit plan enabling railroad passengers to buy transportation, Pullman accommodations and all-expense tours on time payments was inaugurated May 20 sponsored by a separate Travelers Credit Corp. and 66 participating railroads. Prospective users of the service, which is available for trips costing \$50 or more, apply for credit at the ticket office of the railroad over whose lines travel is desired, and the application is passed upon within 24 hours.

Second program to hold passenger traffic is a train-auto service opened in the terminals of 12 western carriers in 135 cities by Railway Extension Inc. Backed by the railroads who give facilities for booths and parking spaces,

Railway Extension attempts to induce travelers to leave their cars at home, journey by rail and rent autos for use at the destination point. Basic rate for the service extending westward from Chicago is 8¢-a-mile with a 10-mile-an-hour minimum; a sliding scale is in effect for rising mileage.

In the East some 30 railroads are operating their own train-auto system through a hook-up with local travel agencies in 55 cities. Reduced rates are offered train passengers: \$3-a-day plus 5¢-a-mile, except in New York City where the per diem cost is \$4 plus 6¢-a-mile.

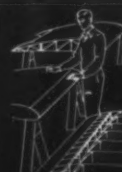
## Radio Series for Youth

A series of six radio programs offered through the cooperation of Air Youth of America and the National Broadcasting Co. was begun May 27 over the NBC-Blue Network, the initial speaker being Thomas H. Beck, president of Air Youth and chairman of the National Aviation Forum meeting in Washington. Speakers to be heard on the Monday evening broadcasts will include Winthrop Rockefeller, Jacqueline Cochran and Capt. Eddie Rickenbacker.

SUNCOOK MILLS  
LEADING MANUFACTURERS  
OF FABRIC AND  
TAPES FOR THE  
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WORLD'S PREMIER FLIGHTEX FABRIC AIRPLANE FABRIC

## C. A. A. ACTIONS

(Pilot Certificates, Letters of Authority, Publications, Miscellaneous. For Airline Regulation, See Air Carrier Record. Serial Numbers of Orders and Dates in Parentheses.)

### Pilots

#### Revocations

**Danial A. Monan**, LaGrange, Ga., solo pilot certificate 66064 revoked for piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, and other violations of the Civil Air Regulations. (May 7, 499).

**Joseph H. Tambyin**, Reno, Nev., student pilot certificate 77356 revoked for piloting an aircraft carrying a person other than a certificated instructor actually giving instruction, and other violations of the CAR. (May 10, 505).

**Harry M. Lustig**, Denver, Colo., private pilot certificate 42758 revoked for piloting an aircraft on a civil airway carrying a person not possessed of a pilot certificate valid for the operation involved, who occupied a control seat of said aircraft without the dual controls thereof having been made inoperative, and other violations of the CAR. (May 17, 519).

#### Suspensions

**Theodore T. Brown**, Beverly Hills, Cal., commercial pilot certificate 5168 suspended for a period of 60 days and thereafter until the holder thereof shall have demonstrated to the satisfaction of a designated representative of the CAA that he is thoroughly familiar with parts 01 and 60 of the CAR and the local field traffic rules for Los Angeles Municipal Airport, Union Air Terminal and Grand Central Air Terminal. (May 3, 447).

**J. Don Jones**, Wenatchee, Wash., private pilot certificate 45122 suspended for a period of 30 days for piloting an aircraft carrying a person who occupied a control seat of said aircraft when the dual controls thereof had not been made inoperative and when neither the respondent nor the person carried was possessed of a pilot certificate valid for the operation involved, and other violations of the CAR. (May 10, 504).

**William Kubida**, Maplewood, N. J., private pilot certificate 57439 suspended for a period of 90 days for piloting an aircraft acrobatically carrying a passenger although neither he nor the passenger was equipped with a parachute, and other violations of the CAR. (May 15, 512).

**Anton F. Brotz, Sr.**, aircraft and aircraft engine mechanic certificate 8059 suspended for a period of 180 days for carelessness and inattention to his duties as a holder of such certificate. (May 17, 516).

**Russell O. Tilton**, student pilot certificate S-99762 suspended for a period of 90 days and thereafter until such time as the holder thereof shall have received two hours of dual instruction from a certificated instructor, for piloting an aircraft after sunset and before sunrise when said aircraft was not equipped with navigation lights, and other CAR violations. (May 17, 517).

#### Referred to Dept. of Justice

The CAA has referred the following cases to the Attorney General for judicial action on violations of the Civil Aeronautics Act and the CAR: (May 10, 501) **John F. Holland**, Blytheville, Ark., for piloting an uncertificated, unregistered aircraft bearing an invalid identification mark on a civil airway without being possessed of a valid pilot certificate, and other violations; **Kenneth W. Tyler**, Portland, Ore., for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations; (May 10, 502), **James M. Harwell**, Grand Saline, Tex., for piloting an aircraft on a civil airway without being possessed of a pilot certificate; (May 17, 520), **Ernest L. Gammon**, Dallas, Tex., for piloting an aircraft on a civil airway at a height over a congested area not

sufficient to permit at all times an emergency landing outside of such area in the event of complete power failure.

### Civil Penalties

The following orders in compromise of civil penalties for certain violations of the Civil Aeronautics Act and the CAR have been accepted by the CAA: (May 10, 506), **Elbert B. Anding**, New York City, for piloting an aircraft on and across various civil airways although said aircraft had been involved in an accident and had not been rated as to airworthiness, \$50.00; **Arthur W. Berry**, Anchorage, Alaska, for piloting an aircraft on a flight outside an area within a 25-mile radius of his point of take-off in violation of the terms of his student pilot certificate, \$25.00; (May 15, 509), **Frank Cordova**, Mineola, N. Y., for, while piloting an aircraft on an instrument flight, entering a controlled area without first establishing communication with such station, and other violations, \$50.00; **Lester Dethloff**, East Cleveland, O., for permitting his registered aircraft to be flown on a civil airway by a person other than one possessed of a pilot certificate valid for the operation involved, \$50.00; (May 15, 510), **Ralph E. Morrison**, Helena, Mont., for piloting an aircraft on a civil airway after sunset when said aircraft was not equipped with navigation lights, and other violations, \$50.00; (May 15, 511), **George Lambros Jr.**, Passaic, N. J., for piloting an aircraft on a civil airway at an altitude less than 1,000 ft. over a congested part of New York City, \$25.00; **William G. Simms Jr.**, Summerton, S. C., for piloting an aircraft on a civil airway after sundown, although said aircraft was not equipped with navigation lights, \$25.00.

### Civil Air Regulations

The CAA has adopted the following amendments to the Civil Air Regulations: Amendment 44 amending sec. 24.36 providing for reexamination for mechanic certificate or rating.

Amendment 45 providing for registration, airworthiness, type and production certificates and identification marks (Part 01, "Aircraft Registration and Airworthiness Certificates;" Part 02, "Type and Production Certificates;" amendments to sec. 60.32 of Part 60 and sec. 04.000 of Part 04).

Amendment 46 creating a new method for certification of air carrier dispatchers (Part 27, "Aircraft Dispatcher Certificates").

Amendment 47 providing for the issuance of certificates of waiver of the air traffic rules (sec. 60.81 and 60.91 of Part 60).

Amendment 48 providing for scope, tests, data, drawings and technical requirements respecting airplane airworthiness (effective July 1, 1940).

Amendment 49, modifying airline transport pilot privileges.

Amendment 50, effective Aug. 1, 1940, creating a new method for rating flying schools (Part 50, "Flying School Rating").

Amendment 51, effective June 1, 1940, revising the qualification for, and the rules governing the operation of, air carriers.

The Authority also adopted a regulation requiring that notice be given of the construction or alteration of structures on or near civil airways (effective July 16, 1940).

### Lockheed Payroll Grows

Lockheed Aircraft Corp., Burbank, Cal., has 790 engineers working full time under Chief Engineer Hall L. Hibbard, the company announced recently. With a backlog in excess of \$57,000,000, without additional war-time orders now being negotiated, the company has a goal of over 900 engineers set for July. Approximately 40 employees are being added daily to the Lockheed payroll.

### 2 Grumman to Canada

Purchase of two Grumman G-21A amphibians by the Canadian department of defense has been announced by Gillies Aviation Corp., Hicksville, N. Y., sole sales representative for the amphibians. Late order will bring to four the number of Grumman amphibians in operation with the RCAF. Delivery of the first of 12 Grumman G-21B military flying boats to the Portuguese government also was announced by Gillies.

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## Domestic Airlines Report \$370,662 First Quarter Profit; 9 in Black

Operations During Similar Period Last Year Brought \$771,503 Loss Before Income Taxes; American and Eastern Lead

Domestic air transport companies in the first quarter of 1940 netted a profit before income taxes of \$370,662.24, compared with a \$771,503.77 loss for the similar period of last year. While in 1939 only six companies showed first quarter profits, this year nine of the 18 carriers which file monthly statements with the CAA operated in the black.

Leading earners of the industry and transporting nearly 49% of the total 453,984 revenue passengers were Eastern Air Lines and American Airlines which together gained \$1,091,265.77. Eastern carrying 81,432 revenue passengers earned \$720,412.61 before income taxes and American serving 139,516 paying passengers reported a \$370,853.16 profit.

Heaviest first quarter loser was Transcontinental & Western Air which reported a red figure of \$391,458.35 greater by \$26,617.03 than the deficit for the corresponding period of last year. TWA's earnings, however, do not include mail pay for the Kansas City-Chicago-Pittsburgh and Kansas City-Chicago-New York air mail routes which were granted last December, since the rate of compensation has not been established.

Believed responsible in part for the TWA loss are the increased expenses incurred by the company preparatory to placing in operation the new Boeing four-motor Stratoliners, the training of new personnel for expected summer expansion, and the fact that regular year-round schedules were maintained with little curtailment during the winter season.

Boston-Maine Airways, Inter-Island Airways, and Western Air Express, each of which experienced January-March deficits in 1939, operated profitably during the 1940 quarter.

The transport industry which in 1939 carried 48% more revenue passengers than during 1938 continued to register substantial traffic gains through the March quarter. Compared with 1939, revenue passengers carried increased 70%, revenue passenger miles 65%, passenger seat miles nearly 49%, revenue miles flown 32%. Revenue passenger load factor was raised from 48.5 to 53.9%.

### Seeking New Location

Air Associates Inc. indicated recently that it probably would locate its new factory in New Jersey as soon as a suitable site can be selected and a factory and office building erected. Bendix, N. J., is reported as a possible site. Company at present occupies three buildings at Roosevelt Field, L. I., where it has been located since 1928. Manufacturing department of the company has been operating on a three-shift basis for some months, and a rapidly expanding backlog makes additional space and facilities an immediate necessity. It was reported.

## 6 Pan American Divisions Receive \$11,000,000 U.S. Mail Pay in 1939

Six principal divisions of the Pan American Airways System operating into points of the United States or in Alaska received approximately \$11,000,000 in U. S. air mail pay during 1939 in contrast to \$6,000,000 passenger income, according to a compilation by AMERICAN AVIATION based upon monthly reports filed with the Civil Aeronautics Authority.

Excluding the December figures of the Pan American Western Division and Pan American-Grace Airways whose statements for that month have not yet been received by the CAA, U. S. mail pay of \$10,720,272 to the six companies represented 56.9% of the total operating revenue, with the \$5,853,891 passenger revenue forming 31.1% of the total. Domestic airlines during 1939

## Continental Motors Forms New Air Unit

Continental Motors Corp., Muskegon, Mich., has incorporated a subsidiary in Virginia under the name of Continental Aviation & Engineering Corp. to develop and manufacture aircraft engines of 500 hp. and over. C. J. Reese, president, announced May 14. Largest airplane engine currently produced by the parent company is 250 hp.

The subsidiary has authorized capitalization of \$1,000,000 in \$1 par common stock. Officers are C. J. Reese, president; Lewis P. Kalb, executive vice-president; Arthur W. Wild, James W. Kinnucan and Carl F. Bachle, vice-presidents; Eppa Hunton, secretary, and H. Melvin Parker, assistant secretary and treasurer. Directors are David Van Alstyne, Leslie L. Vivian, Benjamin F. Tobin Jr., James H. Ferry, Reese, Kalb and Wild.

## Efficient Work Plans and Customer School Reported by Mfrs.

A program of work simplification to speed mass production of airplanes and a school for instruction of customer personnel have been reported recently by two large manufacturers of the aircraft industry.

Glenn L. Martin Co. at Baltimore, Md., last September began its work simplification program designed to eliminate waste effort and discover most effective operational procedures. Today more than 300 of Martin's 11,000 employees participate in the periodic conferences, during which problems of motion economy are discussed, particular jobs analyzed, and suggestions for improvement offered. Participation in the program is entirely voluntary, according to Harry F. Vollmer, Martin vice-president in charge of manufacturing, who indicated that employees are eager to help form policies and work methods of the company.

At East Hartford, Conn., United Aircraft Corp., to familiarize the users of its products with operation, servicing, maintenance and latest developments, has opened a new engine and propeller school. Work at the school includes actual assembly and disassembly of engines and propellers with the help and supervision of company experts. Periodic lectures are given and tours are conducted weekly to sections of the factories where students may observe plant procedures. Equipped to handle 15 persons at present, the school is under the supervision of Maj. Walter E. Richards and occupies an area of 1,800 sq. ft. adjoining the Pratt & Whitney factory.

### Monocoupe Signs Lease

Monocoupe Corp. has signed a 15-year lease with Orlando (Fla.) Aviation Industries Inc. to build a \$30,000 aircraft plant at municipal airport, C. W. Bunch, company president, announced recently.

## SUMMARY OF U.S. AIR TRANSPORT OPERATIONS, JAN.-MAR., 1940

(Compiled from Monthly Reports to the CAA\*)

	Rev. Pass. Carried	Rev. Pass. Miles	Avail. Seat Factor	Pass. Load Factor	Operating Revenue	Operating Expense	Net Income	Before Income Taxes-1939
American Airlines	139,516	54,146,833	85,679,125	83.2%	\$ 3,862,157.76	\$ 3,475,077.11	\$370,080.65	\$ 28,200.98
Boston-Maine	2,212	670,295	1,751,890	38.3%	107,284.86	100,017.22	7,267.64	17,290.87 (red)
Brainerd	20,158	6,376,262	12,836,190	51.2%	518,386.61	542,543.84	28,291.83 (red)	7,946.27 (red)
Chicago & Southern	8,719	2,829,620	5,308,518	66.5%	322,193.05	221,605.16	2,498.89	5,537.83
Continental	2,529	777,972	1,980,909	39.3%	120,010.92	117,805.16	1,814.30	8,038.10
Delta	8,728	2,840,228	4,220,046	67.1%	210,322.54	210,311.21	426.29	2,037.01
Eastern	81,432	41,378,940	66,691,912	62.0%	2,605,329.11	2,391,086.44	720,412.61	333,180.50
Inland	1,761	444,554	2,197,140	20.2%	91,604.02	114,841.97	23,489.95 (red)	21,712.55 (red)
Inter-Island	6,710	2,106,102	3,428,468	61.3%	134,313.40	104,966.10	29,347.30	13,118.83 (red)
Marquette	138	31,125	1,448,993	19.1%	1,677.21	33,551.92	31,874.71 (red)	3,865.38 (red)
National	1,381	437,530	1,125,470	38.8%	183,148.36	168,043.81	16,204.55	2,817.32
Northwest	21,548	7,604,248	24,551,336	31.0%	784,785.82	862,280.26	99,248.39 (red)	180,123.37 (red)
Pan Am. Airways Co., Atlantic Service	31,515	15,728,920	23,518,034	67.3%	1,151,811.15	923,006.04	228,805.11	1,151,811.15
Pan Am. Airways Co., Pacific Service	47,562	23,362,652	49,159,153	45.0%	1,777,041.38	2,150,365.79	373,325.59 (red)	44,284.76 (red)
Pan Am. Airways, Inc., Eastern Division	85,323	32,190,262	60,301,270	53.7%	2,747,564.33	2,883,490.28	144,100.27 (red)	384,841.32 (red)
Pan Am. Airways, Inc., Western Division	1,545	5,806,102	9,125,448	63.6%	324,313.40	316,164.23	19,558.58	14,682,294.23
Wilmington Catalina	2,426	72,780	147,990	49.2%	12,642.29	23,152.13	12,509.33 (red)	421,658.29 (red)
TOTALS	493,984	182,213,381	337,886,118	61.9%	\$14,420,332.81	\$14,004,260.29	\$370,662.24	\$771,503.77 (red)

\* All monthly reports to the CAA are subject to revision and year-end adjustment.  
 b Marquette reports to the CAA did not start until August, 1939.  
 c Wilmington Catalina did not report to the CAA in 1939.

## OPERATIONS SUMMARY OF PRINCIPAL DIVISIONS OF PAA SYSTEM FOR 1939

(Compiled from Monthly Reports to the CAA\*)

	Rev. Pass. Carried	Rev. Pass. Miles	Avail. Seat Factor	Pass. Load Factor	Passenger Revenue	U. S. Mail Revenue	Foreign Mail Revenue	Express Revenue	Operating Revenue	Operating Expense	Net Income	Before Income Taxes
Pacific Alaska Airways, Inc.	1,883	1,138,901	2,243,543	30.8%	\$ 145,816.80	\$ 95,061.73		\$ 8,819.63	\$ 255,307.16	\$ 217,218.88	\$ 161,911.70 (red)	\$ 161,911.70 (red)
Pan Am. Airways Co., Atlantic Service	3,319	7,984,831	14,797,513	54.0%	880,632.72	1,256,032.19	3,367,801.17	388.98	2,377,825.43	2,912,539.11	534,733.68 (red)	534,733.68 (red)
Pan Am. Airways Co., Pacific Service	1,582	8,382,919	10,148,742	47.0%	485,890.49	2,489,053.49	97,980.80	60,31.82	2,133,085.94	3,513,053.76	379,967.62 (red)	379,967.62 (red)
Pan Am. Airways, Inc., Eastern Division	80,271	37,287,847	63,082,021	53.1%	2,918,106.33	4,164,609.63	144,676.76	280,468.89	3,808,860.91	4,248,880.91	1,248,586.68 (red)	1,248,586.68 (red)
Pan Am. Airways, Inc., Western Division	30,658	8,850,825	18,763,784	47.2%	917,599.14	1,313,087.96	95,041.74	112,396.23	2,791,970.29	2,370,154.71	421,815.58 (red)	421,815.58 (red)
Pan Am. Grace Airways, Inc.	9,701	8,432,630	13,526,828	61.3%	1,132,638.80	2,402,627.48	132,821.07	62,820.37	2,444,079.30	2,071,921.39	272,157.91 (red)	272,157.91 (red)
TOTALS	119,409	60,077,983	125,736,740	54.5%	\$ 5,853,891.88	\$10,720,272.68	\$838,321.63	\$526,019.80	\$18,833,149.08	\$17,867,282.08	\$ 965,947.17	\$ 965,947.17

\* All monthly reports to the CAA are subject to revision and year-end adjustment.  
 b The Western Division and Pacific Service figures, since the reports for that month have not yet been received by the CAA.  
 c Does not include June figures which were omitted in monthly report.  
 d Does not include June operations of the Pacific Service, since the seat miles operated were not reported in that month's June statement to the CAA.

## SUMMARY OF U.S. AIR TRANSPORT OPERATIONS FOR MARCH

(Compiled and Mileage Costs Computed from CAA Reports\*)

	Rev. Pass. Carried	Rev. Pass. Miles	Avail. Seat Factor	Pass. Load Factor	Exp. & Crtd. Lb.-Miles	Mail Lb.-Miles	Pass. Revenues	Mail Revenues	Operating Revenue	Operating Expense	Cost per Mile	Net Income	Total Assets
American	54,840	21,258,647	34,024,314	68.3%	138,584,343	420,012,323	\$1,091,997.68	\$330,927.74	\$1,490,899.32	\$1,239,441.47	\$ .80	\$348,809.88	\$11,291,678.28
Boston-Maine	1,497	236,438	554,940	43.3%	227,568	904,948	12,812.63	18,714.24	33,225.85	32,375.38	\$ .90	758.34	388,452.35
Brainerd	8,719	2,829,620	5,308,518	66.5%	4,427,513	71,039.66	309,846.22	43,725.80	353,572.02	199,446.23	\$ .51	8,806.84	1,360,343.74
Chicago & Southern	2,256	907,173	1,261,207	71.9%	4,574,119	23,516,730	41,871.52	33,593.97	77,675.62	76,389.76	\$ .48	932.60	634,790.10
Continental	1,098	337,097	751,646	44.8%	3,576,147	14,731.35	14,731.35	30,080.62	45,278.10	41,387.09	\$ .47	3,669.82	446,564.24
Delta	3,640	945,108	1,626,476	58.1%	2,431,094	13,968,074	41,928.06	7,725.80	80,073.90	81,168.88	\$ .49	2,564.38	5,016,628.88
Eastern	32,004	16,421,590	34,447,878	67.1%	77,261,800	244,274,616	883,384.76	157,774.19	1,083,723.30	751,620.15	\$ .59	333,928.78	6,105,013.41
Inland	27,139	13,341,369	21,364,039	62.3%	231,911	1,412,451	7,181.17	12,617.56	24,257.56	24,257.56	\$ .34	2,564.38	5,016,628.88
Inter-Island	2,892	384,498	540,787	70.9%	1,636,732	394,960	39,828.93	3,916.00	45,486.70	36,945.37	\$ .96	9,917.35	821,715.68
Marquette	70	15,502	80,406	19.2%	80,406		80,406		80,406	80,406	\$ .69	8,690.88 (red)	54,917.05
National	1,308	437,530	1,125,470	38.8%	14,491,912	24,551,336	12,617.18	20,255.40	35,000.10	35,000.10	\$ .74	793,853.87	7,938,533.87
Northwest	2,082	651,618	724,300	62.3%	833,115	6,217,167	22,579.18	20,255.40	43,607.34	31,729.13	\$ .43	10,934.43	463,088.80
Pan Am. Airways Co., Atlantic Service	2,319	5,813,860	8,874,830	32.6%	16,735,455	12,359,599	122,331.31	148,966.63	279,978.45	297,413.91	\$ .63	18,243.57 (red)	2,800,104.15
Pan Am. Airways Co., Pacific Service	13,233	2,437,747	4,568,258	52.4%	9,046,737	23,567,382	146,182.38	88,663.37	239,864.43	277,039.66	\$ .52	77,039.66	2,101,638.06
Pan Am. Airways, Inc., Eastern Division	19,338	9,262,820	17,514,461	52.8%	74,292,589	292,896,078	462,908.85	199,931.02	666,874.82	768,366.91	\$ .67	77,416.72 (red)	6,793,060.28
Pan Am. Airways, Inc., Western Division	27,139	13,341,369	21,364,039	62.3%	166,781,368	454,950,104	70,790.83	124,498.97	1,080,968.97	1,080,968.97	\$ .65	13,941.37	84,274,274.75
Western Air Express	3,240	1,139,853	2,280,870	49.0%	18,619,816	37,096,287	82,819.85	68,912.44	128,065.99	104,609.53	\$ .55	23,686.23	3,028,158.51
Wilmington-Catalina	1,282	38,460	73,360	53.4%	284,850		6,846.82		6,846.82	9,014.98	\$ .32	2,366.27 (red)	136,134.51

\* All monthly reports to the CAA are subject to revision and year-end adjustment.  
 b Total operating expense divided by total plane miles; computed to the nearest half-cent.



## Development of Commercial Planes Aided by Foreign Orders, Squier Says

The large volume of foreign purchases in the U. S. today provides the American manufacturer with the opportunity to develop better airplanes for commercial purposes than anyone else in the world, according to Carl Squier, vice-president and sales manager of Lockheed Aircraft Corp.

Addressing the recent Southwest Aviation Conference at Tulsa, Squier stated that the industry is now building up its production facilities and has enough foreign business on the books, or coming in, to provide the finest of engineering ability and production planning. The building of better transports will enable us to provide a standard of quality and performance which cannot be touched by foreign manufacturers for many years after the end of the present war, he said.

Squier summarized the ways in which foreign aircraft sales help U. S. aviation as follows: (1) provide the financial impetus by which the U. S. aircraft industry may carry on its development at a highly augmented rate; (2) permit us to employ large engineering staffs, keeping our products constantly ahead of other countries; (3) permit us to develop present world markets with less foreign competition than otherwise would be the case; (4) enable development of research facilities at a rapid pace, and (5) permits the industry to do its share for unemployment.

"All of these factors resolve themselves into one final advantage," Squier said. "We are building an industry which in itself is vital to national defense—and we are permitted to build that industry at a much more rapid rate than would otherwise be the case if we did not enjoy these foreign markets. In this manner we are building for the protection and

safeguarding of the U. S. at a minimum of cost to our own citizens, and these large orders have permitted us . . . to establish line production, to add machinery, trained men and raw materials, and to create a national condition which assures you and me that the American airplane will be consistently better than any other airplane in the world."

Squier warned that U. S. manufacturers should develop foreign commercial markets during the present war, as well as engage in military production. He pointed out that when the war is over, other nations will turn to foreign markets and "competition will become extremely keen, no holds will be barred, and the sky truly will be the limit."

Plant expansions have been almost wholly financed by the foreign purchasers, the speaker said. He expressed the opinion that the releasing for export of modern U. S. fighting planes will enable the government to secure improved aerial fighting equipment at reduced cost.

The large increase in the manufacture of U. S. aircraft caused by the war has enabled U. S. manufacturers for the first time to work out "something resembling volume production with consequent economies in manufacturing," Squier said. "It is not inconceivable that this increased volume may materially decrease prices per unit. It has been noted that due to the increased United States facilities now available, the recent volume orders for Navy equipment have given the Navy contracts for 578 airplanes at a total appropriation previously estimated by the Navy as enough to provide only 500 airplanes.

"It is a certainty that the actual dollar spent for today's airplane or the airplane of the next year or five years from now will buy a great deal more actual airplane than would have been the case had no foreign purchases been made in this country. Every time the volume of business enables us to straighten out the kinks in our production line, we can give the consumer either a better airplane for his money or the same airplane for less money."

Foreign orders also have "provided

## Aviation Mission to Chile



Capt. Robert W. Burns (left), 1st Lt. Joe W. Kelly and Lt. Col. Omer O. Niergarth, Army Air Corps, sailed from New York on Apr. 26 for Santiago, Chile, as an aviation mission to assist in the instruction of air officers in the Chilean Army. Col. Niergarth heads the mission. (See AMERICAN AVIATION, May 1).

## Tucker Forms Engine, Plane Co. in Detroit

Tucker Aviation Corp. with \$1,000,000 in privately-subscribed capital was formed recently in Detroit with Preston Tucker, engine and aircraft designer, as president and general manager. Presently located at 2493 E. Grand Blvd., Detroit, Mich., the company has options on two factories in the Detroit area and expects to complete its factory plans soon.

Firm currently is building two planes and in addition has four government contracts for armament and aircraft equipment. One plane is announced as a super-pursuit, two-engined, very fast and heavily armed. Details of powerplant and design are not available. Second plane project is a four-place commercial job, single-engined, with an expected speed of about 285 m.p.h.

John LeDuc, formerly production engineer for Ford Motor Co., is vice-president—manufacturing. Arthur Lardin, formerly with Glenn L. Martin Co., is chief engineer in charge of aircraft. Harry Miller, formerly of Miller Motors and racing car engine building, is chief engineer in charge of engines. Company has done considerable development work on its own engine designs.

us with the chance to train thousands of young men in the art of building airplanes," Squier said.

## 17,000 EMPLOYEES

Douglas Aircraft Has 13,154 at Santa Monica, 3,943 at El Segundo

Employment in the Santa Monica and El Segundo plants of Douglas Aircraft Co. has topped the 17,000 mark, according to Carl A. Cover, senior vice-president and general manager.

Payroll during the week ended May 11 exceeded \$518,000, an average of nearly \$27,000,000 annually. During four months of 1940 payrolls have amounted to more than \$3,100,000, compared with \$14,290,000 for all of last year.

Operating in three eight-hour shifts, the Santa Monica factory employed 13,154 during the week ended May 11, while El Segundo employed 3,943.

## Atlas, C-W Merger Canceled

Proposed merger of Atlas Corp. and Curtiss-Wright Corp. will not take place, it was revealed in statements issued May 10 by Floyd B. Odium, president of Atlas, and Guy W. Vaughan, president of Curtiss-Wright.

## FOUR MAJOR AIRLINES CONTRIBUTE TO PARKS TRAINING METHODS



In ten years of successful operation, four of the largest airlines in the United States have met and solved many of the multitudinous problems of air transport. Their wealth of experience has been made available to Parks Air College for inclusion in the curriculum of the Professional Flight and Executive Course.

This valuable cooperation makes possible the effectiveness of Parks training methods and assures graduates that they meet the industry's requirements.

Graduates of Parks Air College are trained to be of immediate value to your individual enterprise. When adding to your own personnel, a letter to Oliver L. Parks, President, will bring full details as to available Parks trained men.

**PARKS AIR  
COLLEGE, Inc.**  
East St. Louis, Illinois

**MICA INSULATED  
SPARK PLUGS**

Patented  
in the  
United States  
and other  
Countries

Contractors to the United States  
Army, Navy and Coast Guard  
and Aircraft Engine Builders.



**THE B&G CORPORATION**

136 W. 52nd Street

New York

## Lockheed Devotes 69% of Engineering Work to Commercial Production

Despite large foreign and domestic military orders, 69% of the "thinking, planning, designing, checking and research" in the engineering department of Lockheed Aircraft Corp. for 1940 will be devoted exclusively to commercial aircraft, according to H. F. McCann, company planning engineer.

Production charts for July, a typical 1940 working month, show that out of a total of 138,000 working hours assigned to the 800 Lockheed engineers, only 43,000 will be directed toward military aircraft.

Half of the military work of the department has been assigned to the U. S. Army. This means, McCann said, that while the production end of the factory is working full speed to turn out bombers and pursuit ships on schedule, only 15 1/2% of the planning for the future at Lockheed has any connection with the European war. Although no scale of engineering project time has been drawn up for 1941, it is expected that at least two-thirds of the engineering work for the next several years will be devoted to commercial transports, executive models and private planes, McCann said.

He also revealed that the company is conducting a drive to secure engineering personnel to carry out the program of commercial projects. With models of the next four years now in

the process of advance research and preliminary design, there is great demand for design engineers and structural analysts, he said. Lockheed's engineering department now has 800 men compared with 60 in Mar. 1936. It is anticipated that the figure will reach 900 by July and 925 by December.

## Douglas Delivers Bomber

Deliveries of a new bombardment plane designated the B-23, a modification of the Douglas B-18A, are being made by Douglas Aircraft Co. Inc., the War Dept. announced on May 17. The all-metal craft is equipped with two 14-cylinder Wright Whirlwinds and three-bladed propellers of 13 1/2 ft. diameter. Approximate gross weight of the ship is 26,000 lbs., and it is adapted for crew of six. Wing span is 92 ft., length 58 ft. and height 18 ft.

## Officers Reelected

Reelected officers of United Aircraft Corp. are Frederick B. Rentschler, chairman; Joseph F. McCarthy, controller & secretary; Carroll L. Gault, treasurer, and Frederick E. Burnham, general accountant. As announced in the last issue, Eugene E. Wilson was elected new president of the corporation and Raycroft Walsh was chosen vice-president.

## GOVERNMENT CONTRACTS

(Awards of \$10,000 and Over)

Release Date Shown

## AIRCRAFT

Lockheed Aircraft Corp., Burbank, Cal., 4/19, airplane, \$58,286.75 (Navy Supplies &amp; Accounts).

## ENGINES, PARTS, ACCESSORIES

Consolidated Aircraft Corp., San Diego, Cal., 4/19, airplane parts \$21,675.39 (Navy).

Goodyear Tire &amp; Rubber Co. Inc., Akron, O., 4/19, landing wheel inner tubes, \$16,274.06 (Air Corps).

Bendix Products Div., Bendix Aviation Corp., South Bend Ind., 4/23 landing gear wheels, \$15,630 (Navy Supplies &amp; Accounts).

Pratt &amp; Whitney Aircraft Div., United Aircraft Corp., E. Hartford, Conn., 4/23, maintenance parts for engines, \$591,151.21 (Air Corps).

Consolidated Aircraft Corp., San Diego, Cal., 4/25, spare parts for airplanes, \$26,221.96 (Navy Supplies &amp; Accounts).

Vought-Sikorsky Aircraft Div., United Aircraft Corp., Stratford, Conn., 4/26, spare parts for airplanes, \$59,259.67 (Navy).

Consolidated Aircraft Corp., San Diego, Cal., 4/26, airplane parts \$41,098.16 (Navy).

Pratt &amp; Whitney Aircraft Div., United Aircraft Corp., E. Hartford Conn., 4/26, ball bearings \$15,269.45 (Philadelphia Navy Yard).

Grumman Aircraft Engineering Corp., Bethpage, N. Y., 4/26, parts for airplanes, \$11,827.47 (Navy).

Fairchild Aviation Corp., Jamiaca, N. Y., 5/2, computer assemblies, \$30,216 (Air Corps).

Liquidometer Corp., Long Island City, N. Y., 4/23, fuel gage indicator &amp; compensator assemblies, \$19,354.63 (Air Corps).

Vought-Sikorsky Aircraft Div., United Aircraft Corp., Stratford, Conn., 5/7, spare parts for airplanes, \$14,425.41 (Navy).

Wright Aeronautical Corp., Paterson, N. J., 5/17, automatic strainer assembly, \$15,200 (Air Corps).

## MISCELLANEOUS

Hardinge Bros. Inc., Elmira, N. Y., 4/19, milling machines, \$11,038 (NACA).  
Tinius Olsen Testing Machine Co., Philadelphia, Pa., 4/19, testing machines \$11,300 (NACA).

Brown &amp; Sharpe Mfg. Co., Providence, R. I., 4/19, milling machines, \$22,712 (Air Corps).

E. A. Kinsey Co., Cincinnati, O., 4/19, milling machines, \$24,384.50 (Air Corps).

W. H. Kieffaber Co., Dayton, O., 4/23, dies, reamers, taps, etc., \$10,222.44 (Air Corps).

Standard Oil Co. of N. J., New York, N. Y., 4/23, aircraft engine fuel, \$78,750 (Air Corps).

Hell Co., Milwaukee, Wis., 4/23, semi-tank trailers &amp; spare parts, \$832,330 (Air Corps).

Grebmar Construction Co., Panama City, C. Z., 4/23, construction of civilian quarters, Albrook Field, Panama, \$226,291 (War).

James L. Taylor, Ft. Worth, Tex., 4/23, alterations to hospitals, Barksdale Field, La., \$85,283 (War).

Manhattan Construction Co., Muskogee, Okla., 4/23, construction of annexes &amp; completion of operations hangar, Chanute Field, Ill., \$216,490 (War).

Aqua Systems Inc., New York, N. Y., 4/23, gasoline fueling system, Scott Field, Ill., \$23,455 (War).

Volts Studios Inc., Des Moines, Ia., 4/24, aerial photographs of 10,343 sq. mi. in Illinois, \$18,100.25 (Agricultural Adjustment Administration).

Abrams Aerial Survey Inc., Lansing, Mich., 4/24, aerial photographs of 10,421 sq. mi. in Indiana, \$23,343.04 (AAA).

Aero Service Corp., Philadelphia, Pa., 4/24, aerial photographs of 11,936 sq. mi. in Iowa, \$22,081.60 (AAA).

Aerial Surveys of Pittsburgh Inc., Pittsburgh, Pa., 4/24, aerial photographs of 4,949 sq. mi. in Michigan, \$10,046.47 (AAA).

Aero Service Corp., Philadelphia, Pa., 4/24, aerial photographs of 5,419 sq. mi. in Minnesota, \$10,838 (AAA).

Park Aerial Surveys Inc., Louisville, Ky., 4/24, aerial photographs of 12,203 sq. mi. in Missouri, \$20,745.10 (AAA).

Park Aerial Surveys Inc., Louisville, Ky., 4/24, aerial photographs of 8,723 sq. mi. in Nebraska, \$14,829.10 (AAA).

Aero Service Corp., Philadelphia, Pa., 4/24, aerial photographs of 5,525 sq. mi. in New Jersey &amp; Pennsylvania, \$14,365 (AAA).

Aerial Surveys Inc., Cleveland, O., 4/24, aerial photographs of 9,557 sq. mi. in Ohio, \$21,389 (AAA).

Park Aerial Surveys Inc., Louisville, Ky., 4/24, aerial photographs of 6,710 sq. mi. in South Dakota, \$12,413.50 (AAA).

Holmberg Aerial Survey Co., Chicago, Ill., 4/24, aerial photographs of 9,558 sq. mi. in Wisconsin, \$19,593.90 (AAA).

Aetna Steel Construction Co., Jacksonville, Fla., 4/24, radio towers at Naval Air Station, Jacksonville, \$14,880 (Navy Yards &amp; Docks).

Riggs Distler &amp; Co. Inc., Philadelphia, Pa., 4/24, exterior services at Naval Aircraft Factory, Philadelphia, \$59,788 (Navy Yards &amp; Docks).

Walter L. Ritchie, Somerville, Mass., 4/24, dispensary at Naval Reserve Aviation Base, Squantum, Mass., \$43,773 (Navy Yards &amp; Docks).

C. T. Dawkins, Tampa, Fla., 4/24, fuel oil system, Naval Air Station, Jacksonville, \$29,254 (Navy Yards &amp; Docks).

Standard Oil Co. of Kentucky, Louisville, Ky., 4/26, aviation gasoline, \$20,400 (Navy).

Standard-Vacuum Oil Co., Manila, P. I., 4/26, engine fuel, \$51,760 (Air Corps).

C. H. Giesler Machinery Co., Dayton, O., 4/26, drill presses, \$17,275.56 (Air Corps).

Rivett Lathe &amp; Grinder Inc., Brighton, Mass., 4/26, toolmaker's lathes, \$11,408 (NACA).

Baker-Rauland Co., Cleveland, O., 4/26, platform trucks, \$33,290 (Air Corps).

Smith &amp; Pew Construction Co., Atlanta, Ga., 4/27, foundations for assembly &amp; repair shop at Naval Air Station, Jacksonville, \$63,384 (Navy Yards &amp; Docks).

Fairchild Aviation Corp., Jamaica, N. Y., 5/2, services &amp; material to overhaul heaters &amp; gun cameras, \$24,338.40 (Navy Supplies &amp; Accounts).

Switlik Parachute &amp; Equipment Co., Trenton, N. J., 5/2, parts for parachutes, \$23,548.50 (Philadelphia Navy Yard).

Alec Letman trading as Lite Mfg. Co., New York, N. Y., 5/2, bag assemblies, \$37,760 (Air Corps).

Standard Oil Co. of California, San Francisco, Cal., 5/3, aircraft engine fuel, \$11,000 (Air Corps).

Plomb Tool Co., Los Angeles, Cal., 5/7, socket wrench adapters, bars, handles, etc., \$62,998.19 (Air Corps).

Cheney Brothers, Manchester, Conn., 5/8, aeronautical silk, \$90,225 (Air Corps).

Sperry Gyroscope Co. Inc., Brooklyn, N. Y., 5/8, modification &amp; overhaul of automatic pilot units &amp; mount assemblies, \$160,142.50 (Air Corps).

Variety Aircraft Corp., Dayton, O., 5/9, bushings, dies, punches, gage &amp; fixture assemblies, etc., \$17,999.70 (Air Corps).

Standard Oil Co. Inc. in Kentucky, Louisville, Ky., 5/9, aircraft engine fuel, \$13,780 (Air Corps).

Standard Oil Co. Inc. in Kentucky, Louisville, Ky., 5/9, aircraft engine fuel, \$34,528 (Air Corps).

Standard Oil Co. of California, San Francisco, Cal., 5/9, aircraft engine fuel, \$25,875 (Air Corps).

Shell Oil Co. Inc., San Francisco, Cal., 5/9, aircraft engine fuel, \$64,645 (Air Corps).

B. &amp; O. Manufacturing Co., Baltimore, Md., 5/9, mechanics suits, \$81,144 (Air Corps).

Eastman Kodak Co., Rochester, N. Y., 5/9, photographic film, \$29,403.21 (Air Corps).

Lycoming Announces Liquid-Cooled  
1,200-hp. Flat Engine 37 in. High

Development of a new type of aircraft engine, a 12-cylinder "flat" motor designed for wing installation, has been announced by the Lycoming Division of Aviation Manufacturing Corp. Lycoming engineers claim a 10% increase in aircraft speeds and a 15% increase in cruising range due to low frontal area over radial types of comparable horsepower.

Long under development, the new engine is the first produced in this country. It develops 1200 hp. and marks the entry of Lycoming into the high horsepower aircraft engine

field. The company now produces aircraft engines ranging from 50 hp. to 1,200 hp.

The flat engine has a height of only 37 inches at its highest point compared to the 49 to 54 inches diameter of the conventional radial engines of comparable horsepower now in use. Known as the Lycoming O-1230, the engine has 12 cylinders, six on either side of the crankcase, developing 100 hp. for each cylinder. Weight is 1,325 lbs., with a displacement of 1,230 cubic inches. It is liquid cooled and was developed in cooperation with the Army Air Corps.

## Aeronautical Charts

New additions of aeronautical charts are now available from the U. S. Coast and Geodetic Survey, Washington, D. C., and from recognized dealers at major airports. Pilots are warned not to use old charts when new editions are available.

## New Regional Aeronautical Chart

13-M. Feb. 1940. Scale 1:1,000,000. Size 26 x 45". Located in latitude 32°-38° north and longitude 87°-99° west, covering an area of about 299,000 sq. mile. Price 75c. This is the tenth issue of a series of 17 regional aeronautical charts, and covers the area on the following sectional aeronautical charts: Shreveport, Little Rock, Tulsa, eastern half of Dallas, Oklahoma City and Wichita. It is lithographed in 10 colors, showing airports, names of airports, beacons, compass roses, isogonic lines, weather broadcasts, etc. in red; radio ranges in pink; flight lines in purple; railroad and topographic features in black; water in blue; area of cities in yellow, and elevation gradients in three tints.

## New Editions of Sectional Aeronautical Charts

(The series of 87 sectional charts, scaled at 1:500,000, sell for 40c each. On orders grossing \$10 or more including assortments of any aeronautical charts, there is a 33 1/3% discount.)

ABERDEEN, Apr. 1940. Size 20x39". Located in latitude 44°-46° north and longitude 96°-102° west, an area of

about 47,000 sq. mi. Includes radio ranges added at Huron, Watertown and Aberdeen, and beacons added on the lighted airway routes Omaha-Bismark and Huron-Minneapolis.

BUTTE, Apr. 1940. Size 20x39". Located in latitude 46°-48° north and longitude 108°-114° west, embracing some 47,000 sq. mi. New radio range at Lewiston, and realignment of radio range at Helena.

CASPER, Apr. 1940. Size 20x40". Located in latitude 42°-44° north and longitude 102°-108° west, an area of 49,000 sq. mi. Addition of radio ranges at Casper and Douglas.

CHEYENNE, Apr. 1940. Size 20x41". Located in latitude 42°-42° north and longitude 102°-108° west, covering an area of some 51,000 sq. mi. Civil airways added, and an accumulation of changes since the last edition.

DETROIT, Apr. 1940. Size 20x41". Located in latitude 42°-44° north and longitude 78°-84° west, an area of about 49,000 sq. mi. Addition of civil airways, as well as changes accumulated since last edition.

LEWISTON, Apr. 1940. Size 20x39". Located in latitude 44°-46° north and longitude 66°-72° west, covering an area of about 47,000 sq. mi. New radio ranges added at Megantic and Ellenville.

WASHINGTON, Apr. 1940. Size 20x39". Located in latitude 38°-40° north and longitude 73°-30°-78° west, embracing some 26,000 sq. mi. New radio ranges at Philadelphia and Baltimore, together with changes accumulated since last edition.

## NEW YORK STOCK EXCHANGE

	Week Ended May 11				Week Ended May 18			
	High	Low	Change	Sales	High	Low	Change	Sales
American Airlines .....	73 3/4	69	+ 3 1/2	13,300	69 1/4	50 1/4	-13 1/2	51,600
Aviation Corp. ....	7 1/2	7	.....	34,600	7 1/4	4 1/4	- 3	225,500
Bendix Aviation .....	35 1/2	32 3/4	+ 2 1/2	20,500	34 1/4	28	- 6 1/4	71,700
Boeing Airplane .....	25	21 1/2	+ 3 1/2	41,800	23 1/2	18 1/2	- 5	90,000
Consolidated Aircraft ..	30	28	+ 2	12,200	30	23 1/2	- 6 1/2	45,700
Continental Motors .....	37 1/2	33 1/2	+ 4	28,700	4	2	- 2	184,600
Curtiss-Wright .....	11 1/2	10 1/2	+ 1	202,400	11 1/4	7 1/2	- 3 1/2	631,400
Curtiss-Wright A .....	29 1/2	28 1/4	- 1	21,500	28 3/4	24	- 4 1/2	47,800
Douglas Aircraft .....	94 1/2	89	+ 5 1/2	26,100	93	79	- 14	73,000
Eastern Air Lines .....	44 1/2	39	+ 5 1/2	30,000	39 1/2	32 1/2	- 7	28,500
Ex-Cell-O .....	34 1/2	31 1/4	+ 3 1/2	9,900	33 1/4	26 3/4	- 6 1/2	29,300
Grumman Aircraft Eng.	24 1/2	22 1/2	+ 2	12,700	23 1/2	16	- 7 1/2	51,800
Lockheed Aircraft ....	40	37 1/2	+ 2 1/2	75,500	39	30	- 9	324,100
Glenn L. Martin .....	45 1/2	43	+ 2 1/2	24,000	45	34 1/2	- 10 1/2	111,500
Natl. Aviation Corp. ....	15 1/2	14 1/2	+ 1	6,700	15 1/2	11	- 4 1/2	30,700
N. American Aviation ..	24	22 1/2	+ 1 1/2	28,700	24 1/2	15	- 9 1/2	225,600
Pan American Airways ..	23 1/2	19 1/2	+ 4	30,600	20	14 1/2	- 5 1/2	106,500
Sperry Corp. ....	44 1/2	42 1/2	+ 2	13,800	43 1/2	38 1/2	- 5	57,300
Thompson Products ..	38	35 3/4	+ 2 1/4	5,100	36	29 1/2	- 6 1/2	17,500
TWA .....	19 1/2	18	+ 1 1/2	10,600	17 1/2	13 1/2	- 4	33,600
United Aircraft .....	52	48 1/2	+ 3 1/2	45,900	51 1/2	43 1/2	- 8	132,500
United Air Lines .....	21 1/2	19 1/2	+ 2	32,100	19 1/2	14	- 5 1/2	113,900
Wright Aeronautical ..	123 1/2	118	+ 5 1/2	390	117 1/2	100	- 17 1/2	870

## NEW YORK CURB EXCHANGE

	Week Ended May 11				Week Ended May 18			
	High	Low	Change	Sales	High	Low	Change	Sales
Aero Supply A .....	.....	.....	.....	.....	21	21	- 1	100
Aero Supply B .....	7	6 1/4	+ 3/4	10,400	6 1/4	4 1/4	- 2	18,300
Air Associates .....	14 1/4	14	- 1/4	700	14	10 1/2	- 3 1/2	2,900
Air Investors .....	3 1/2	3 1/4	.....	2,600	3 1/2	2	- 1 1/2	9,600
Air Investors cv pf ..	27 1/2	27 1/4	- 1/4	300	26	26	- 1 1/4	100
Air Investors war .....	4 1/2	4 1/2	.....	600	4 1/2	3 1/2	- 1	2,800
Aviation & Transp. ....	4 1/2	4	- 1/2	13,000	4	2 1/2	- 1 1/2	53,200
Beech Aircraft .....	6 1/4	5 1/2	.....	7,800	6	3 1/2	- 2 1/2	29,100
Bell Aircraft .....	28 1/4	26 1/4	.....	7,700	27 1/4	19 1/2	- 8	32,400
Bellanca Aircraft .....	6 1/2	6 1/4	- 1/4	3,200	6 1/4	3	- 3 1/4	16,700
Brewster Aero .....	15 1/2	14 1/2	+ 1	2,300	14 1/2	10	- 4 1/2	14,100
Canadian Colonial .....	10 1/4	9 1/4	+ 1	4,000	9 1/4	5 1/2	- 3 1/2	7,900
Fairchild Aviation .....	12 1/2	11 1/4	+ 1 1/4	7,400	12	8 1/2	- 3 1/2	9,300
Fairchild Eng. & Air ..	6 1/2	6	+ 1/2	89,600	6 1/2	5 1/2	- 1	104,500
Irving Air Chute .....	15 1/2	13 1/2	+ 2	1,000	16 1/2	13 1/2	- 3	6,100
Penn-Central Airlines ..	21 1/2	18 1/2	+ 3	7,500	18 1/2	13 1/2	- 5	15,300
Republic Aviation .....	6 1/4	6 1/4	.....	14,300	6 1/4	4 1/4	- 2	112,100
Roosevelt Field .....	2 1/2	2 1/2	.....	500	2 1/2	2 1/2	.....	1,000
Waco Aircraft .....	4 1/2	4 1/2	.....	300	4 1/2	3	- 1 1/2	3,600
Western Air Express ..	7	6 1/4	- 3/4	2,600	6	4 1/4	- 1 1/2	6,700



## Washington Financial Review

Summaries of SEC Data Filed Through May 20

### SEC Registrations

#### CHICAGO & SOUTHERN AIR LINES INC.

Registration May 13 of 110,000 new common shares with the Securities Exchange Commission by Chicago & Southern Air Lines Inc. will be effective June 2, making possible acquisition of new capital for purchase of aircraft, four of which have been delivered. Negotiations are pending for a 5th DC-3, at \$114,900.

Underwriters, I. M. Simon & Co., St. Louis, and Stern, Wampler & Co., Chicago, will purchase unsubscribed portion of 60,000 shares initially offered stockholders, and the remaining 50,000 shares are subject to options granted in 1936 for purchase by Feb. 25, 1942, at \$7, and thereafter to Feb. 24, 1946, at \$8. Holders of latter options are I. M. Simon & Co., 12,500; Lawrence Stern & Co., 6,250; Stern, Wampler & Co. Inc., 6,250; and Carleton Putnam, Mrs. D. D. Walker and Rogers Humphreys aggregate of 25,000.

The registration statement also reveals that pursuant to provisions of a trust indenture between the company and American National Bank & Trust Co. of Chicago, and Benjamin Kilpatrick as trustee, Chicago & Southern on Apr. 29 borrowed \$350,000 from the bank, issuing seven installment promissory notes each in principal of \$50,000 (4% payable from Aug. 1, 1940, to May 1, 1944). The indenture constitutes a mortgage on substantially all of the company's property. Proceeds from the stock sale also will be used for partial repayment of this loan.

John R. Newey and John A. Longmire resigned as directors late in April. Initial offering price, underwriting commissions, record date, and similar data had not been forwarded to the SEC May 20. (The prospectus filed by the company earlier reported in AMERICAN AVIATION's Washington Financial Review May 1, has been withdrawn.)

#### BOEING AIRPLANE CO.

Registration Apr. 17 covers 360,979 \$5-par capital shares which were offered initially to stockholders of record May 10, in ratio of 1 for each 2 shares held, and to holders of warrants for common shares of United Aircraft & Transport Corp. Unsubscribed shares will be purchased by underwriters at \$16, but commission of 80c a share will be paid on shares offered present stockholders whether or not there shall be any unsubscribed stock, and Boeing agrees to reimburse underwriters for expenses not to exceed \$20,000. In month ended Apr. 10 120,400 shares were sold on N. Y. Stock Exchange, with last sale \$26.62½. Warrants expire May 24.

Underwriters with share of unsubscribed stock to be taken: Harriman Ripley & Co. Inc. 25%; G. M.—P. Murphy & Co. 25%; Blyth & Co. Inc. 15%; Lehman Bros. 15%; Hayden Stone & Co. 7½%; Dean Witter & Co. 7½%; Ferris & Hardgrove 5%. Delivery of unsubscribed stock & payment are to be made May 28 to June 7. Prospectus dated May 7 has been filed.

Estimated net proceeds are \$5,380,154, to be advanced to Boeing Aircraft, subsidiary, for repayment of loan represented by note of \$4,740,000 outstanding Apr. 10, and for working capital. Additional loan will be necessary for payment of said note if stock proceeds are insufficient.

Review of current operations: Backlog (consolidated) at Apr. 17: \$26,006,715, including 370,500 Canadian dollars at par. Net sales Jan. 1 to Apr. 17: \$5,411,498. Employment of Boeing Aircraft Co. at Apr. 1, 5269; at Boeing Aircraft of Canada, Ltd., 253; Stearnman Aircraft Division 645. At May 1st 720,961½ shares were outstanding, which number may be increased by 996½ by exchange of certificates for shares of common stock of United Aircraft & Transport Corp. It is expected that present contract with Aeronautical Mechanics, Local 751, International Association of Machinists (AFL) will be terminated at expiration, July 1, and "the company & the union may have difficulty in reaching an agreement." The company believes that the average wage now paid is in excess of the average wage paid by competing aircraft manufacturers.

#### EASTERN AIR LINES INC.

Registration statement filed Apr. 17 is for not more than 110,909 \$1-par common shares (and warrants therefor) to be offered shareholders at \$32, with unsubscribed-for securities to be sold at market by following underwriters: Kuhn, Loeb & Co. 18.18%; Smith, Barney & Co. 18.18%; Blyth & Co. Inc. 10.91%; Harriman Ripley & Co. 10.91%; Lehman Bros. 10.91%; G. M.—P. Murphy & Co. 10.91%; Janney & Co. 9.10%; Emanuel & Co. 5.45%; Carl M. Loeb, Rhoades & Co., 5.45%.

Issuer agrees to pay each underwriter an amount equal to sum of (1) \$1-per share on the proportion of the number of shares offered for subscription by shareholders underwritten by it, and (2) if unsubscribed stock amounts to 20,000 shares or more 75c per share on its proportion of the number of shares of unsubscribed stock in excess of 20,000 shares. Other underwriting provisions will be reported by amendment.

Proceeds, estimated at \$3,285,291 to \$3,402,962, will be used mainly for payments on orders already placed: 11 DC-3s will be delivered from June to December, for which about \$1,000,000 will be payable; 2 DST's will be delivered late in 1940, on which about \$200,000 will be payable; 8 DC-4s will be delivered in 1941, in respect of which about \$2,700,000 will be payable in addition to \$288,000 heretofore paid.

At present owned are 10 DC-2s, 15 DC-3s, and 3 DST aircraft, all with Wright Cyclone engines. Company returned in April 4 DC-3s leased from United Air Lines for duration of peak travel season to Florida. Employment at Mar. 1 was 1,450.

#### DIVIDENDS

BORG-WARNER CORP.—25c, payable July 1, of record June 18.

#### APPLICATIONS FOR LISTING

BOEING AIRPLANE CO., 360,979 shares, \$5-par, to be registered upon notice of issuance on New York Stock Exchange.

#### Fleet Elects Langford

Fleet Aircraft Ltd. directors were re-elected recently in Toronto with the exception of H. E. Langford, secretary, who was elected to replace J. B. Hay, resigned.

## Pesco Device Equalizes Wing Flap Operation



A new metering device designed to eliminate inequality in wing flap operation is a new equipment item of Pump Engineering Service Corp., Cleveland, O. The new method equalizes flow of hydraulic fluids to each control cylinder. The equalizer or flow divider distributes fluid equally from a common pressure line into two discharge lines. These lines lead to the cylinders and incorporate a combination of pressure balancing valves to compensate for variations in required operating pressures.

If one flap or cylinder should lock, the equalizer will lock also and thus prevent the other cylinder from operating. The equalizer can be applied similarly for synchronizing the operation of landing gear cylinders or any other pairs of hydraulic units.

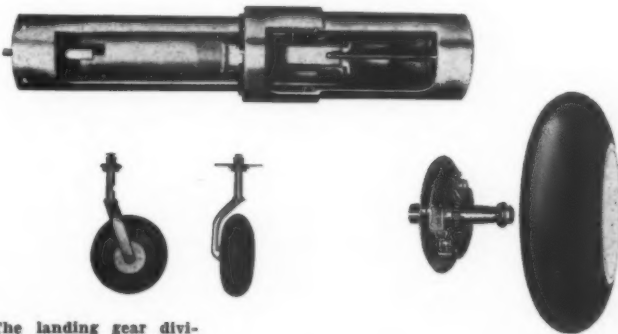
#### Harvill Triples Floor Space

Floor space occupied by Harvill Aircraft Die Casting Corp., Los Angeles, has been tripled in recent weeks and new instruments and tools are being installed in the inspection department. Other departments likewise are being expanded.

#### Gagg Addresses SAE

A paper entitled "Surface Finish Control in Machine Shop Practice" was delivered by R. F. Gagg of Wright Aeronautical Corp. at the national production meeting of the Society of Automotive Engineers at Hartford, Conn., May 7-8.

## Bendix Shows Products



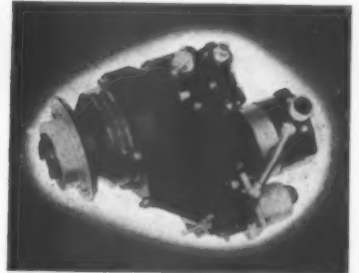
The landing gear division of Bendix Products Div., Bendix Aviation Corp., South Bend, Ind., has announced the following products: (1) Bendix pneumatic shock absorbers in which impact shocks are dissipated hydraulically, taxing shocks pneumatically. The strut is designed individually for particular load requirements. (2) Bendix streamline tail wheel knuckles which are steerable and swivelable thus increasing ground maneuverability.

Illustrations (3) and (5) show the Bendix streamline wheel and brake. The brake incorporates the duo servo principle with the advantage of reduced pedal pressure for a given braking effort. It is stated that the brake is smoother in operation than the conventional servo type brake, in use for some time on aircraft. Brake units are interchangeable between right and left sides and have the same braking effort for both forward and reverse travel of the wheel. Bendix lists this brake in several standard sizes, although special sizes can be furnished on order.

Illustration (4) shows the Bendix pilot seat, developed for military aircraft. Weighing seven pounds, it has been subjected to 3,500 lbs. deadweight loading test.

## New Engine Starters

Three new types of aircraft engine starters have recently been released by Eclipse Aviation division of Bendix Aviation Corporation for domestic and export sale. They are briefly described below:



Series 40, shown above, is a hand or combination hand and electric inertia starter to provide a starter of improved design and output for engines rated at 1500 to 1800 hp. Series 40 is similar in design to the basic types of inertia starters.



Series 41 direct cranking electric and inertia starter, shown above, provides an improved means of starting aircraft engines of increased output which are rated at approximately 1500 to 1800 hp. This series incorporates all the features of the hand or combination hand and electric inertia starters and in addition provides by means of a heavy duty integral accelerating motor, continuous cranking of the aircraft engine after dissipation of the flywheel kinetic energy.



Series E-160, shown above, is a combination direct cranking electric starter with integral hydraulic feathering pump. It replaces the standard type of E-160 direct cranking electric starter, and was primarily designed and developed for use in conjunction with Hamilton Standard Hydromatic Propellers. A reversible motor is utilized in order to permit driving of the hydraulic feathering pump when the starter is not in operation.

#### UAWA Wins Election

The NLRB recently announced certification of Local 479, United Automobile Workers of America (CIO), as the sole collective bargaining agency selected by a majority of production and maintenance employees of Hall-Aluminum Aircraft Corp., Bristol, Pa., following a secret ballot election held Apr. 12.



## Financial Reports

### First Quarter

**WESTERN AIR EXPRESS**—(unaudited) net profit \$19,738 against loss of \$34,058 in 1939 period. Current assets \$410,854 with \$153,448 cash, against Dec. 31 current assets \$512,973 & cash \$249,237. Current liabilities Mar. 31, \$137,265 against \$258,246 Dec. 31. Passenger revenue was up 57.3% from year ago.

**TRANSCONTINENTAL & Western Air, Inc.**—Net loss \$391,458 against net loss \$364,941 in 1939 period. Revenues \$1,777,041 (passenger \$1,117,683; express \$55,734; mail \$577,427; other \$28,196). Net operating loss \$373,324.

**Traffic:** Revenue miles 2,982,109; revenue passenger miles 22,392,652; revenue passengers 38,646. Increased loss was due in part to season, expenses preparatory to instituting Boeing Stratoliners, increased miles flown, according to Jack Frye, president.

**AMERICAN AIRLINES, INC.**—Net profit \$304,053 against \$23,800 in 1939 1st quarter. Operating revenues \$3,862,157 (passenger \$2,737,560; mail \$946,681; express \$119,711; other \$58,203). Expenses \$3,222,408. Profit from sale of flying equipment \$110,024. Gross income before taxes, depreciation, etc. \$749,774. Provision for Federal income taxes \$66,800.

**Traffic:** Revenue miles 5,268,581; revenue passengers 139,516; revenue passenger miles 54,146,633.

**EASTERN AIR LINES, INC.**—Net income \$511,579, against \$233,125 in 1939 period. Operating revenues \$2,823,264 (passenger \$2,264,382; up 56%; mail \$474,568, up 10%; other \$88,903). Balance sheet shows assets \$5,970,801; current assets \$3,566,934; cash \$2,022,335; current liabilities \$1,324,947.

**Traffic:** Revenue miles 3,620,731; revenue passengers 72,560; revenue passenger miles 41,378,940.

**AVIATION CORP.**—Consolidated net loss \$196,447 for quarter ended Feb. 29 after depreciation & charges. Backlog was \$4,131,000 against \$3,507,000 at Nov. 30. Company explained loss figure did not reflect operations of Vultec Aircraft, Inc., affiliate, which showed net loss of \$180,984. Vultec Backlog at Feb. 28 was \$14,878,000 against \$5,610,000 at Nov. 30.

**UNITED AIRCRAFT CORP.**—Consolidated net profit \$2,380,029 (89c each on 2,656,691 shares, against \$1,400,799 in 1939 quarter (56c). Backlog Mar. 31 \$136,337,000 against \$127,004,032 at Jan. 1. New business booked \$25,884,497. Shipments \$16,550,720.

Total revenues \$16,666,622. Net profit from operations \$2,714,074. Net income before provision for income taxes \$2,894,707. Federal & Canadian income taxes \$501,363. Minority proportion of profits of subsidiary corporation \$13,314.

**AIR ASSOCIATES, INC.**—For 6 months ended Mar. 31, net profit \$123,593 after charges, equivalent after dividend requirements on preferred to \$14 each on 99,884 common shares, against \$1.08 for fiscal year through Sept. 30, 1939. Net current assets Mar. 31: \$638,005, against \$596,238 at Sept. 30.

**DOUGLAS AIRCRAFT CO. INC.**—Net profit \$1,904,877 (83c each on 600,000 shares) for Feb. 29 period against \$771,521 (31.35c) at close of 1939 1st period. Backlog Apr. 30: \$113,744,398, of which nearly \$18,000,000 is for commercial transports, including 36 DC-4s.

Assets: \$30,734,653; current assets \$25,391,505 (cash \$10,940,591). Current liabilities \$14,180,134.

Net sales \$12,920,904. Gross profit \$3,373,391. Operating profit \$2,994,285. Profit before income taxes \$2,227,915. Employment increased 3238 in period to 16,984 on May 1.

First quarter earnings should not be considered fully indicative of operations for entire year, Donald Douglas, president, said. "Difficulties encountered in obtaining from outside manu-

facturers sufficient accessories & parts, and the temporary decrease in operating efficiency resulting from rapid increase of personnel, may find reflection in volume of sales & results from operations in the next or subsequent quarters."

**BORG-WARNER CORP.** (parent of Pump Engineering Service Corp.)—Consolidated net income \$1,776,240 (76c each on 2,336,713 \$5-par shares). Net operating profit \$2,672,221. Total assets \$49,700,788 (current assets \$32,415,060, cash \$11,576,232); current liabilities \$6,963,758.

**THOMPSON PRODUCTS, INC.**—Net profit \$522,168 (\$1.65 each on 293,290 no-par common shares) against \$325,156 (\$1.07) in 1939 March quarter. Net sales \$5,486,370; operating profit \$674,308; total income \$693,215. Total assets \$12,895,803; current assets \$8,044,972; cash \$438,354; current liabilities \$3,382,357.

**AERO SUPPLY MFG. CO. INC.**—Net profit \$115,235, equal after dividend requirements on \$1.50 Class A stock to 26c each on 412,461 Class B common shares. Net sales were \$677,306. Total 1939 sales were \$1,254,506. Backlog at Mar. 31 was above \$1,000,000. Mid-year dividend on Class B is contemplated.

**EX-CELL-O CORP.**—Net profit \$577,495 (\$1.45 each on 397,506 \$5-par shares), against \$149,771 (38c) in 1939 quarter. Shipments more than double volume a year ago, with Mar. 31 backlog (unspecified) largest in history.

**WRIGHT AERONAUTICAL CORP.**—Net profit \$1,237,001 after charges (\$2.06 each on 599,857 shares), against \$1,231,725 (\$2.05) a year ago.

**CURTIS-WRIGHT CORP.**—Net profit \$2,414,196, best quarter in history (24c) each on 7,431,796 \$1-par common shares, after dividend requirements on 1,158,688 \$2 non-cumulative Class A shares, against \$1,098,157 (15c) a year ago.

**NATIONAL AVIATION CORP.** net asset value on capital stock at Mar. 31 was \$19.44 a share after provision of \$1.33 a share for Federal income taxes on unrealized appreciation, based on tax cost of securities held. Liquidating value at Dec. 31, 1939, was \$17.27 a share; on Mar. 31, \$14.47.

Net income of \$174,464 is shown, including profit of \$220,176 on sales of securities on basis of average cost, after deduction of expenses & Federal income taxes. This compares with \$121,446 net profit in 1939 quarter. Outstanding are 477,274 \$5-par shares. Total assets: \$6,959,466 (\$709,665 cash).

## Calendar 1939

### WRIGHT AERONAUTICAL CORP.

Consolidated net income \$3,740,626 (against \$3,288,772 in 1938), with sales \$28,881,057 (\$21,862,149 in 1938); cost of sales \$18,720,190; selling & administrative expenses \$2,324,218; engineering research & development expenses \$2,658,510; other income (interest, royalties, etc.) \$241,024; other deductions (interest & patent expense) \$69,550; provision for depreciation & amortization \$613,291. Profit before provisions for federal income taxes & incentive compensation \$4,738,320; provision for federal income taxes \$874,050; provision for incentive compensation \$121,644.

Balance sheet: Assets \$39,148,538; in 1938 \$14,740,761. Current assets 29,047,041; cash \$17,483,085; accounts receivable \$2,371,994; inventories of raw materials, work in process & supplies, less \$537,054 reserve, \$7,795,102; due from affiliated companies \$1,396,858. Manufacturing facilities at cost, less \$2,660,831 for depreciation, \$7,911,998. Additional plant facilities \$1,585,234. Miscellaneous investments at cost or less \$4,563. Prepaid taxes, insurance & other expenses \$566,498. Patent license rights, less allowance for amortization, \$33,202.

Current liabilities \$25,814,844; notes payable, affiliated company \$1,000,000; trade accounts payable \$2,920,561; accrued wages, taxes & other expense \$571,217; deposits on uncompleted sales contracts \$20,014,418; other liabilities \$214,629; due to affiliated companies \$17,003; provision for federal income taxes \$958,198; provision for incentive compensation \$118,814. Reserves: self-insurance \$12,000; service guaranty \$625,892. Contingent liability \$2,410,807. Capital: common authorized 1,500,000 no-par shares outstanding 599,857 \$2,999,285; surplus \$1,540,905; earned \$8,155,610.

**NORTH AMERICAN AVIATION INC.** Consolidated net income (1938 figures in parentheses) \$7,088,091 (\$1,904,085),

## To Carry the Brazilian Mail



First of the Beechcrafts sold to the Brazilian Navy by O. J. Whitney Inc., New York, exclusive distributors of Beechcraft planes and Jacobs engines in Latin America, are shown here. To be used for air mail service in Brazil, the planes were assembled in Rio de Janeiro under supervision of the Whitney company.

## Incorporations

Canada—Dominion Skyways (Training) Ltd., Malton, Ont.; 5,000 shares, no par value.

Canada—Malton Flying Training School Ltd., Malton, Ont.; 50,000 shares, no par value.

Delaware—Chandler-Evans Corp.; to deal in aircraft; \$1,000,000 par \$100. E. D. Raul, J. Slaughter, H. Kennedy, Wilmington.

Delaware—Oklahoma Air Transport Co.; to deal in aircraft; 2,500 shares, no par value. R. F. Lewis, C. S. Peabbles, L. H. Herman, Wilmington.

Maryland—Trans-American Aircraft Corp.; 10 Light St., Baltimore; preferred stock, 5,000 shares, par value \$1 each; common stock, 9,000 shares, par value \$1 each. Incorporators: James L. Watson, Gladys M. Magin, Henry C. Shelley.

New York—Ailor Fly-Or-Self System Inc., Mineola; aircraft. Benjamin Kaplan, 194 Old Country Rd., Mineola; 200 shares, no par value.

New York—Columbia Aircraft Corp., Westbury; aircraft; 200 shares, no par value. Burke & Burke, 72 Wall St., New York.

New York—Edwards Flying Service Inc., Queens; aircraft service; 100 shares, no par value. George Napolitano, 35-13 Broadway, New York.

New York—Hayes Aircraft Accessories Corp., Manhattan; Aircraft accessories; 200 shares, no par value. Alex B. Mutter, 6 E. 45th St., New York.

Oregon—The Bend Flying Club, Bend; to promote flying; charitable. Louis A. Hillis and others. Filed by W. H. Gardner, attorney, Oswego.

Washington—Bremerton Flying Club Inc., Bremerton. Filed by Ralph E. Purves, Harrison Bldg., Bremerton. Incorporators: James S. Marsh, David B. Rodkin, Charles E. Perry, et al.

Washington—Comet Club; to promote the study of aeronautics and the art of flying. Filed by Philip L. Martin, 11860 Des Moines Way, Seattle. Incorporators: Carl M. Lehman, Margaret M. Wendelin, Dan W. Huhn, Joe Halsey, John B. Ystrom.

## Martin Directors Approve Stock Participation Plan

A selected group of key employees of Glenn L. Martin Co. will receive extra compensation this year in the form of stock participation as a result of action by the directors following the annual meeting of stockholders recently. The action is an extension of a plan adopted last year.

Entire board of directors was re-elected. Members are Howard Bruce, John W. Castles, William A. Grenning, Joseph T. Hartson, Thomas H. Jones, Glenn L. Martin, Myron G. Shook and Harry F. Vollmer. Re-elected officers are Glenn L. Martin, president; Joseph T. Hartson, executive vice-president; Harry F. Vollmer, 2d vice-president; Myron G. Shook, treasurer and asst. secretary; Thomas H. Jones, secretary.

## Lower Priced 'Executive'

A lower priced model of the all-metal, five-place Executive cabin plane will be placed on the market immediately and will be known as the Standard model. Spartan Aircraft Co., Tulsa, Okla., has announced. New model will be the same as the De Luxe model in all respects, except that it will have a less complete list of accessories. H. Warren Holladay, sales manager of the company, said the first Standard Executive will be off the line soon.

## Equipment Firm Expands

Vickers Inc. has awarded a contract for construction of a \$500,000 plant addition at Detroit to "meet an increased demand for hydraulic controls and equipment used by aircraft and machine tool industries."

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## New Diesel Tested by Army



International News Photo

The Army recently began tests on a new diesel airplane engine at Bolling Field, D. C., after it had been installed in a Stinson Reliant as shown in this photo. S. A. Guiberson Jr. (left), oil millionaire of Dallas, is shown with his son, Allen Guiberson, inspecting the engine which was produced by Guiberson - Diesel

Engine Co. of which they are president and vice-president, respectively. The motor is a 310-hp., nine cylinder, air-cooled radial weighing 653 pounds.

## Air Lab is Tested



The Sperry "air laboratory" a new twin-engine Lockheed, shown on one of its recent tests, is believed to be the first airplane of its kind which has been built especially for research work. C. K. Wildman, director of flight research for Sperry, is in charge of the "air lab."

## Quick Servicing for Pursuits



Photo of the Vultee Vanguard Pursuit shows the ease of servicing by removable side panels and most of the cowlings. The company states that preparation for servicing requires only two minutes after ship comes to rest after a flight and that complete servicing can be accomplished within half an hour. It is also possible to change the barrels of the 10 machine guns without removing the guns from the plane. The Vanguard can mount eight caliber 30 machine guns and two caliber 50 guns firing 4,000 and 500 rounds of ammunition per minute each respectively.

## Flying Cross to Seifert



The Distinguished Flying Cross was presented to Frank W. Seifert, Washington representative of Ryan Aeronautical Co., on May 17 by Secretary of War Woodring in recognition of "great courage and extraordinary achievements while participating in aerial flights in connection with the first successful experiment in refueling an airplane in the air." The refueling flight was made on June 28, 1923.

## Brewster Signs Newark Lease

Brewster Aeronautical Corp.'s lease for a municipal hangar and option on about 10 acres at Newark Airport was signed recently, and the hiring of 1,200 employees was to start at once. Gross rent for the first year will be \$38,944, but the city will spend \$35,000 for alterations, provided Brewster spends an equal amount.

## Lockheed, Vega Building

Two buildings for assembly of parts for military and transport planes are being built at the Lockheed Aircraft Corp. factory in Burbank, Cal. One of the structures will cost \$55,000, the other \$40,000. Vega Airplane Co., a Lockheed subsidiary in Burbank, in a \$25,000 expansion program, is altering office and supervisory buildings. Additional units also are being built.

Hamilton Standard  
Completes New Test  
House for Propellers

Completion of a new propeller test house, said to embrace the largest and most complete testing facilities in the world, was announced in May by Hamilton Standard Propellers Div. of United Aircraft Corp., East Hartford, Conn.

The structure is of reinforced concrete covering an area of about 13,800 sq. ft. and includes four propeller test chambers, two of which have an inside diameter of 18 ft. and two of 24 ft. The latter will enable testing of propellers for engines up to 5,000 hp., the company states. Within the house are two sound-proofed and semi-airconditioned control rooms, one situated between the 18-ft. chambers and the other between the 24-ft. chambers.

The chambers in the test house have the air intake and exhaust stacks arranged horizontally and in a straight line to give the closest approach to airflow conditions encountered in actual flight. A cable-suspension type engine stand is mounted in the center of each chamber by a system of cables crossed fore and aft and anchored in rubber in the walls. A working platform is attached to the engine stand and contains a telescoping section to provide an area from which mechanics can work on the front part of an engine and on the propeller. A non-skid surface covers the entire floor of the platform. In order that engine cooling may be controlled independently of air furnished by the propeller, a metal engine shroud is provided for each test stand.

Of the total cost of the house, about one-fourth was spent for applying soundproofing to more than 60,000 sq. ft. in the stacks and control rooms.

Other equipment includes a four-way valve which controls oil flow and may be used to circulate engine oil through the lubrication system prior to starting, to pre-oil an engine, or to feather or unfeather the hydromatic type of propeller. An automatic oil-in temperature regulator makes it possible to hold clearances in an engine and propeller constant and to maintain control without resort to manual regulation of oil temperature.

In addition to the test facilities and equipment, the new house contains a work room equipped with machine shop tools, a locker room for personnel, and an office for the supervisor of testing.

The architectural work for the structure was done by Albert Kahn Inc., of Detroit.



One of the 24-ft. test chambers in the new Hamilton Standard propeller test house. Mechanics are shown making adjustments to a Hamilton Standard Hydromatic prop. The honeycomb wall in the background smooths out air moving at high speeds and made turbulent by obstructions, such as the work platform, in the propeller slipstream.

## Weatherhead Opens LA Office

Weatherhead Co. of Cleveland, O., has announced opening of a new office at 6030 Wilshire Blvd., Los Angeles, Cal., in charge of W. P. Todd.

## News in Pictures



Marking the first time a Canadian girl has entered the contest, Miss Mary Veronica Dawson, stewardess on Canadian Colonial Airways, will represent her company in the annual Miss American Aviation contest at the 10th National Air Carnival in Birmingham, Ala., June 1-2.



These South African Airways engineers and pilots are shown boarding a United Air Lines plane to go to Burbank, Cal., to take delivery of 29 Lockheed planes purchased for the South African line. Front row (left to right), F. E. Bailey, chief engineer, and Capt. J. D. de V. Rademan. Back row, R. Brown, engineer, and Capt. R. D. Madeley. (United Air Lines photo).



Illustrating a quarter-century of development in American aircraft engines is this picture showing (left) the 30-hp. Lawrence built about 25 years ago and which is the forerunner of the 1,700-hp. Wright Double-Row Cyclone (right). Both engines are displayed in the Aviation Bldg. at the New York World's Fair.



Discussing plans for the operations of their new twin-engined 18A Beechcraft transports, one of which is seen in the background, are H. S. Jones (left), pilot and superintendent of the maritimes division, and C. H. Dickens, general superintendent of Canadian Airways Ltd. To handle increasing passenger and mail loads, Canadian Airways has placed new Beechcrafts of this type in service between Moncton, St. John, Halifax and Charlottetown. The all-metal planes are powered by 350-hp. Wright Whirlwinds. Special equipment includes a set of "blackout blinds" which will be drawn when the planes are flying over prescribed areas. (Beechcraft photo).

## Dodge Heads New Corp.

Horace E. Dodge, of the Detroit automobile family, is the head of a new corporation which would establish an aircraft manufacturing plant at Newport News, Va., where an airfield and structure on three acres already are held, according to Charles Cone of Miami Beach, Fla.

## Bendix Aviation Expands

Bendix Aviation Corp. has leased production space for "several hundred employees" at 545 N. Arlington Ave., East Orange, N. J., to supplement its Bendix, N. J., operations.



# Broader Wings

TO SPAN THE NATION... And the graceful sweep of their arrival marks an epochal advance in air travel. TWA's new Boeing Stratoliners are here! And with them come spaciousness, smoothness, luxury and speeds never before known along any commercial airway in the nation. By presenting Stratoliners today, TWA again, as in the past, is first to put the proved into practice, once more demonstrating that Progress goes hand in hand with Precision on the airline run by flyers.

TRANSCONTINENTAL & WESTERN AIR, Inc.



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